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THESIS

THE UNIFORM COST ACCOUNTING SYSTEM AND STABILIZED RATES AT ANNISTON ARMY DEPOT, ANNISTON, ALABAMA

by

Kenneth Jesse Jargowsky

December 1985

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The results of this study indicate that the implementation of DoD Instruction 7220.29-H and stabilized rates have achieved their primary objectives although there are limitations that a decision maker should be aware of when interpreting data generated by the system. Not only must decision makers be aware of the underlying assumptions, the data have been found to be of limited value for decision making purposes.

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The Uniform Cost Accounting System and Stabilized Rates at Anniston Army Depot, Anniston, Alabama

by

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Submitted in partial fulfillment of the
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LIST OF ACRONYMS

ACP	Asset Capitalization Program
ADP	Automated Data Processing
AIF	Army Industrial Fund
AMC	Army Materiel Command
AMCCOM	Armament, Munitions and Chemical Command
AMP	Army Materiel Plan
ANADR	Anniston Army Depot Regulation
AVSCOM	Aviation Systems Command
BOCIE	Base Operations Cost Indirect Expense
CAT	Category (of work measurement standards)
CECOM	Communications-Electronic Command
COB	Command Operating Budget
CONUS	Continental United States
CTX	Centers of Technical Excellence
DARCOM	Army Materiel Development and Readiness Command
DESCOM	Depot Systems Command
DMDC	Defense Manpower Data Center
DMPE	Depot Maintenance Plant Equipment
DMWR	Depot Maintenance Work Requirements
DoD	Department of Defense
EIMDR	End Item Materiel Data Record
FY	Fiscal Year

GAAP	Generally Accepted Accounting Principles
GAE	General and Administrative Expenses
IOB	Internal Operating Budget
JO/PCN	Job Order/Production Control Number
L & P Cards	Labor and Production Cards
MICOM	Missile Command
MSC	Major Subordinate Command
O&M,A	Operations and Maintenance Funds, Army
OASD	Office of the Assistant Secretary of Defense
OPS-25	Operational Plan Summary Series Forms
OSD	Office of the Secretary of Defense
PBD	Program Budget Decision
PBG	Program Budget Guidance
POM	Planned Objective Memorandum
PPBS	Planning, Programming, Budgeting System
PRON	Procurement Request Order Number
PSR	Program Summary Report
RPSTL	Repair Parts and Special Tools List
TACOM	Tank-Automotive Command
TROSCOM	Troop Support Command
UCA	Uniform Cost Accounting

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I. INTRODUCTION

A. THESIS OBJECTIVE

The purpose of this research project is to examine the relationship between Department of Defense Instruction 7220.29-H and "stabilized rates" used by the Anniston Army Depot in Anniston, Alabama. In particular, this study attempts to compare the two systems, identify financial anomolies and point out limitations that must be observed when interpreting the data generated by these two systems. This study is a part of a much larger research effort sponsored by the Office of the Assistant Secretary of Defense. Other thesis projects have explored how well the Uniform Cost Accounting system captures the physical activities within a depot, the cost accumulation process within a depot, the effects upon cost reporting due to interservice double-counting and how the depots transmit Uniform Cost Accounting data to the Office of the Secretary of Defense.

B. HISTORY OF THE PROBLEM

The Department of Defense (DoD) has strived since 1963 to establish cost accounting and reporting systems that were uniform throughout the maintenance depots in the Department of Defense. A uniform cost accounting and reporting system

was desireable for two primary reasons: (1) existing accounting practices and procedures varied both between the Military Services and among the depots of the same service, and (2) the cumulative cost data associated with the repair, overhaul, and maintenance of Department of Defense weapons systems were not meaningful. The solution to these problems became known as Department of Defense Instruction 7220.29-H, "Guidance for Cost Accounting and Reporting for Depot Maintenance and Maintenance Support Cost Accounting and Production Handbook." The target implementation date was October 1, 1976.

Stabilized rates are actually a variety of costing rates that the depots use for the billing of work performed. Established in FY77, stabilized rates were implemented to protect the customers of the depots budgeted production quotas during a time when inflation was causing rapidly escalating maintenance repair bills.

Given these two sets of accounting systems, this thesis compares the systems with each other, with accounting theory and with the actual cost accounting system used by Anniston Army Depot. The remainder of the thesis is divided into four chapters. Chapter II presents an organizational and functional view of the Army's maintenance system. Within that context, the capabilities, facilities, and mission of Anniston Army Depot are examined to determine how Anniston fits into the overall Army maintenance picture. The histories and

missions of the major organizations are also presented. The major organizations are: (1) the Army Materiel Command, (2) Depot Systems Command, and (3) Anniston Army Depot. Chapter III addresses DoD Instruction 7220.29-H, the Uniform Cost Accounting system and the development, validation, and revision of stabilized rates. Chapter IV presents the cost accumulation process practiced at Anniston and the method for data transmission into DoD 7220.29-H format. The chapter also compares cost data covering four years obtained from Anniston Army Depot and the Defense Manpower Data Center (DoD 7220.29-H generated data). Chapter V, the last chapter, compares Uniform Cost Accounting, stabilized rates and actual costs from the perspective of a management control system, and presents conclusions and recommendations for further study.

II. DEPOT MAINTENANCE IN THE ARMY

Chapter II describes the Army's depot level maintenance structure from an organizational perspective, discusses how depot workloading is controlled and assigned, and how Anniston Army Depot fits into the overall Army maintenance program. This is accomplished by addressing the organizational histories, missions, and responsibilities of the primary participants in Army maintenance. For the purposes of this research effort, those participants are: (1) Army Materiel Command (AMC), (2) Depot Systems Command (DESCOM), and (3) Anniston Army Depot. (Some may know AMC as the Army Materiel Development and Readiness Command (DARCOM), however, as is explained later, that designation is no longer correct.)

A. ARMY MATERIEL COMMAND

Jurisdiction over the Department of the Army's depot level maintenance activities has been delegated to the U.S. Army Materiel Command (AMC). (AMC-R, 1985) This command functions through major subordinate commands and directs the activities of depots, laboratories, arsenals, maintenance shops, proving grounds, test ranges, and procurement offices throughout the United States and overseas. Consequently, overall Army maintenance policy is promulgated by AMC. While the major subordinate commands are individually designated as

program managers for the Army's weapon system program, they also serve as mid-level managers for AMC for maintenance related issues. The depots perform the maintenance and supply functions that constitute the core of the Army Materiel Plan (AMP). (DARCOM-R, 1982)

1. History of the Army Materiel Command

In February of 1962, the Secretary of Defense, Robert S. McNamara approved a plan for the reorganization of the Department of the Army that established the U.S. Army Materiel Command. The purpose of the new organization was the centralization and standardization of continental U.S. (CONUS) material and logistics functions in order to improve efficiency and economy. (AMC-R, 1985) AMC was established as a major Army command with responsibilities for the life-cycle management of Army material. After organizational changes during the interim, AMC was redesignated the U.S. Army Materiel Development and Readiness Command (DARCOM). This action was in response to the "new way of doing business" (DARCOM-R, 1982). With the control of daily operations now decentralized, headquarters were designed to concentrate planning, policy formulation, resource allocation, and evaluation. To provide a focal point under the new system for command and control of the Army depots and depot activities, the U.S. Army Major Item Data Agency at Chambersburg, Pennsylvania, was redesignated the U.S. Army Depot System Command (DESCOM) in September of 1976. Another major realignment of DARCOM

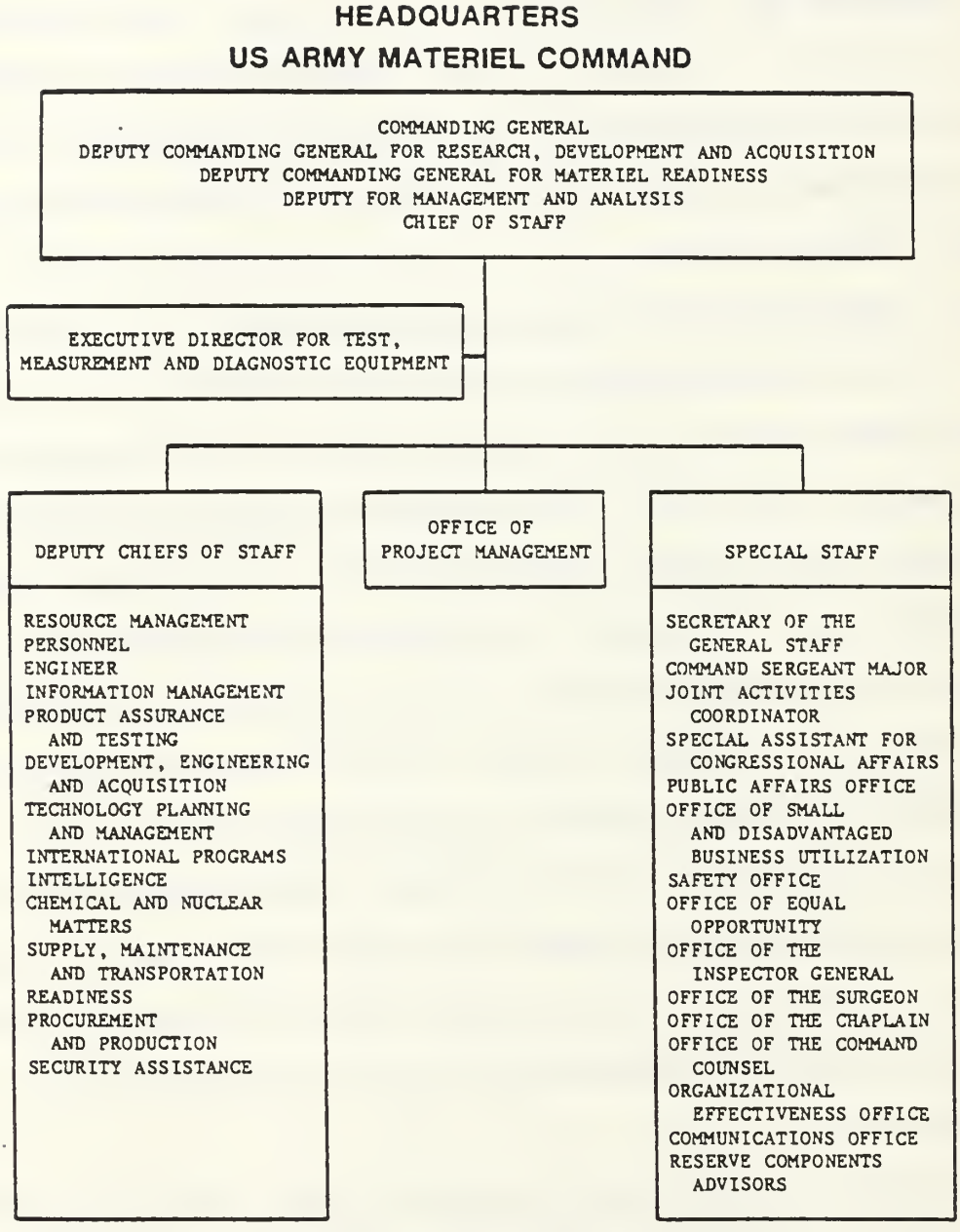
occurred in October of 1981 with the purpose of re-establishing technical expertise, improving integration and balance among appropriations, and improving interface within AMC and its subordinates. The central concept was a matrix management approach to weapons system staff management. Under the command of General Thompson, DARCOM was redesignated the U.S. Army Materiel Command (AMC) in August of 1984 (Sollenberger, 1985). (AMC-R, 1985)

2. Mission of the Army Materiel Command

As currently stated, the mission of AMC is: to provide broad policy and basic guidance, to accomplish major planning, to establish and coordinate major programs, to evaluate AMC programs and operations, to allocate resources for mission accomplishment, to assist major subordinate commands in the accomplishment of their mission, and to resolve command-level problems. (AMC-R, 1985) The structural organization of Headquarters, AMC is depicted in Figure II-1.

Of interest to this research effort is the Depot Operations Branch of the Maintenance Division under the Deputy Chief of Staff for Supply, Maintenance and Transportation. The Depot Operations Branch provides policy, procedures, and guidance for:

(1) Short-, mid-, and long-range depot maintenance facility planning to ascertain facility requirements by size, numbers and types including determinations for modernization, reduction, activation, and deactivation.



Source: Army Materiel Command Regulation 10-2

Figure II-1

(2) Determination of depot work specifications, maintenance production standards, plant and production facility capacity, and its utilization.

(3) Accomplishment of the technical aspects of depot maintenance mobilization industrial preparedness planning.

(4) Determination of that part of depot maintenance workload to be accomplished by commercial contract.

(5) Management of capability engineering data reporting systems.

(6) Management of plant equipment programs. (AMC-R, 1985)

AMC has dictated a uniform organizational structure to which all of the depots and depot activities must subscribe. However, among the various depots, AMC has classified them functionally as one of the following:

(1) A multi-purpose supply distribution depot that has the primary function of receipt, issue, storage and maintenance of designated supplies including ammunition to overseas theaters and to a geographical part of CONUS.

(2) A General Supply Distribution Depot that has the same primary functions of a multi-purpose depot except for ammunition.

(3) A Maintenance Depot that is assigned one or more families of commodities for performance of wholesale maintenance (both multi-purpose and General Supply Distribution Depots may have maintenance mission in support of assigned commodities).

(4) A depot activity has the primary function of receipt, storage and issue of slow moving supplies and is organized and staffed on an austere basis and is satellited on another depot for command, normal base operations and overhead functions. (DARCOM-R, 1977)

3. Major Subordinate Commands

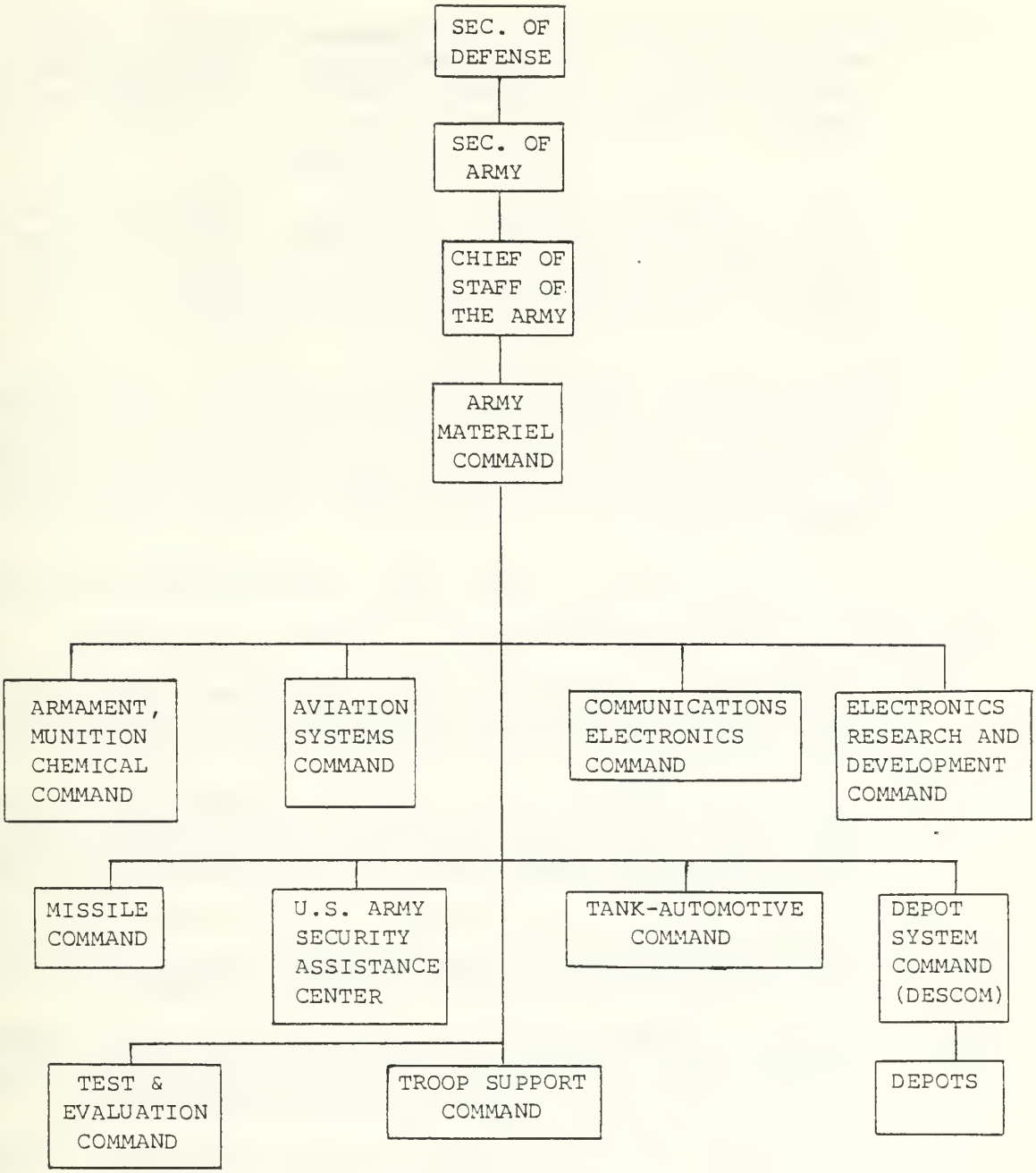
Within the AMC organizational structure there are 11 major subordinate commands, 12 maintenance depots, and six depot activities. A summary organizational chart is presented in Figure II-2. The 11 major subordinate commands all possess equal rank and report directly to AMC. However, it is the interaction between the Depot Systems Command (DESCOM), the other major subordinate commands, and the depots/depot activities that forms the nucleus of the Army's maintenance effort. The names, functions, and locations of the seven major subordinate commands relevant to this effort are:

(1) Tank-Automotive Command (TACOM): TACOM maintains cognizance over the development, procurement, distribution and support of all tracked and wheeled combat, tactical and general purpose vehicles. TACOM is headquartered in Warren, Michigan.

(2) Armament, Munitions and Chemical Command (AMCCOM): AMCCOM is responsible for providing and performing life-cycle management of research and development, engineering, procurement, and material readiness functions for (a) conventional and nuclear weapons, (b) ammunition, (c) chemical warfare and chemical biological defensive systems/material, (d) fire control systems. AMCCOM is headquartered in Rock Island, Illinois.

(3) Aviation Systems Command (AVSCOM): AVSCOM maintains cognizance over research and development and material readiness of all Army airframes. AVSCOM is headquartered in St. Louis, Missouri.

(4) Troop Support Command (TROSCOM): TROSCOM maintains cognizance over research and development and material readiness associated with troop support, e.g. clothes, food, protective garments and gear. TROSCOM is headquarted in St. Louis, Missouri.



Source: Army Materiel Command
Public Affairs Material

Figure II-2

(5) Communications-Electronic Command (CECOM): CECOM is responsible for the development and acquisition of command, control and communications systems and the support of these systems in the field. CECOM is headquarted at Fort Monmouth, New Jersey.

(6) Missile Command (MICOM): MICOM is responsible for the Army's missile and rocket program, including research, development, procurement and the continued support of weapons systems once they are operational. MICOM is headquarted at Redstone Arsenal, Alabama.

(7) Depot Systems Command (DESCOM): DESCOM functions as the maintenance coordinator within AMC and also serves as an intermediary between the other major subordinate commands and the Army's depots. DESCOM is headquarted at Letterkenny Army Depot, Chambersburg, Pennsylvania. (Tackett, 1984)

As described by AMC, the responsibilities of the major subordinate commands are:

(1) Coordinating with AMC during development of initial maintenance requirements and programs to insure proper support.

(2) Determining depot level material maintenance requirements and developing appropriate maintenance support service program requirements for the current and planning years.

(3) Procuring and positioning repair parts required to support depot material maintenance programs.

(4) Providing Repair Parts and Special Tools List (RPSTL) and Depot Maintenance Parts Requirements Lists (DMPRL) to each requesting depot maintenance activity.

(5) Preparing a Depot Maintenance Work Requirements (DMWR) for each item of equipment under its management for which depot maintenance tasks are identified.

(6) Assuring that required Depot Maintenance Plant Equipment (DMPE) capability is developed/procured for new weapon systems to coincide with the generation of first reparable assets. (This involves the use of appropriated funds (specifically the POM process within the PPBS system) to ensure that the requisite special

maintenance equipment is in place at the depots when the first of a new weapon system arrives at the depots for repair.) (AMC-R, 1985)

B. DEPOT SYSTEMS COMMAND

1. History of the Depot Systems Command

Although the heritage of DESCOM and the Army's depots can be traced back to the American Revolution, DESCOM was established in August 1976 under DARCOM Permanent Order 17-2. DESCOM commands and controls 17 U.S. Army depots and depot activities during peacetime (18 in wartime) in the United States and the Federal Republic of Germany. The order creating DESCOM by DARCOM (now AMC) was the result of a study called Project Delta. That project investigated ways to better manage the depots and led to DESCOM's mission of the command and control of all of AMC's depots and depot activities that receive, store, issue, maintain, and dispose of assigned commodities. DESCOM was also made responsible for the management and execution of the worldwide reconciliation program and the evaluation of Army workload assets. DESCOM was also assigned the responsibility of operating and maintaining the Army's Logistics Data Base. (DESCOM-R, 1985)

Figure II-3 illustrates the relationship between AMC, DESCOM and the depots/depot activities.

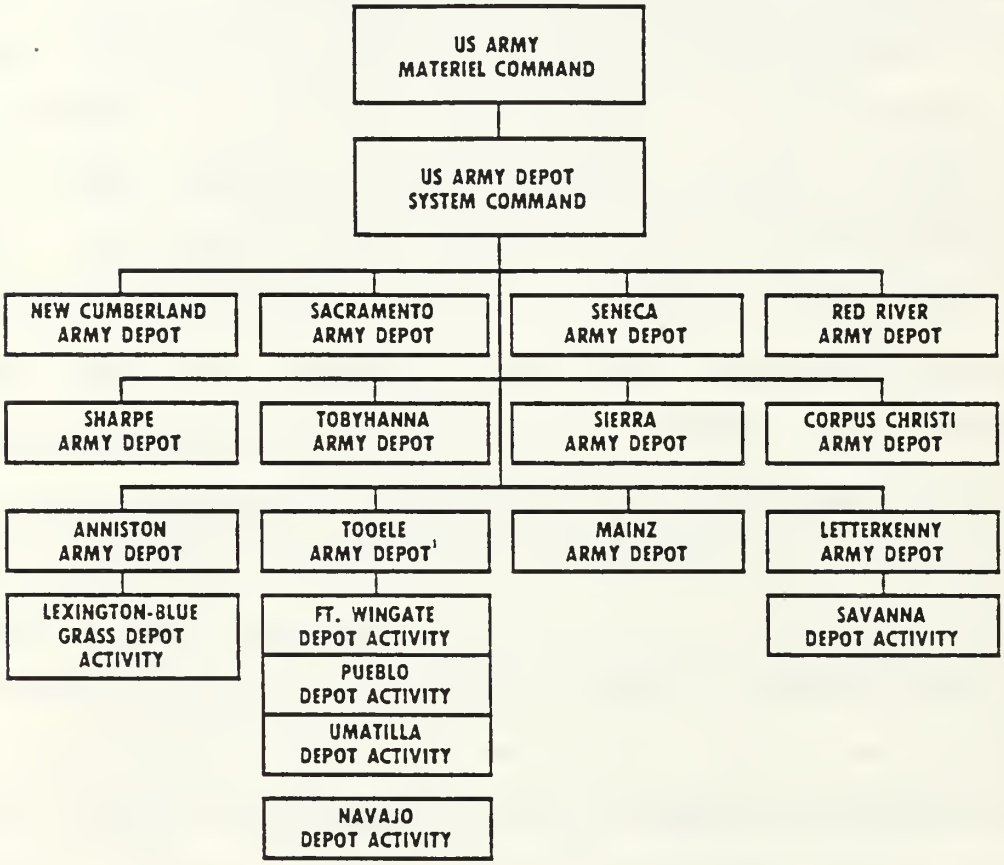
2. Mission of the Depot Systems Command

The major mission areas pertinent to this study as defined by DARCOM-R 750-28 are:

US ARMY MATERIEL COMMAND

US ARMY DEPOT SYSTEM COMMAND

DEPOTS/DEPOT ACTIVITIES



Note 1: Tooele Army Depot maintains surveillance monitoring of conventional ammunition operations and property at Navajo Depot Activity (NADA). Peacetime operations at NADA are performed by the Arizona National Guard. Upon mobilization, NADA returns to the US Army Depot System Command under the direction and control of Tooele Army Depot.

Source: Depot System Command Regulation 10-2

Figure II-3

(1) Preparing Automatic Data Processing (ADP) programs to produce maintenance management information.

(2) Developing a central data repository relative to organic depot maintenance resources (e.g., manpower, floor space, special tools) to accomplish the worldwide Five-Year Depot Maintenance Facility Workload and Resource Plan to allow:

(a) Rapid visibility of existing depot maintenance capabilities and capacities.

(b) Determination of potential changes in capabilities and capacities to meet current workloads and future requirements.

(3) Designating primary, secondary (if required) depot repair facilities.

(4) Developing a worldwide Five-Year Maintenance Facility Workload and Resource Plan by using the requirements generated by direct Army programs and the reimbursable depot maintenance workloads developed by the MSCs.

(5) Executing the depot maintenance portion of the Army Materiel Plan (AMP) and related supporting budget documents.

(6) Developing a depot workload distribution plan for each year following current program budget and manpower guidance received from AMC.

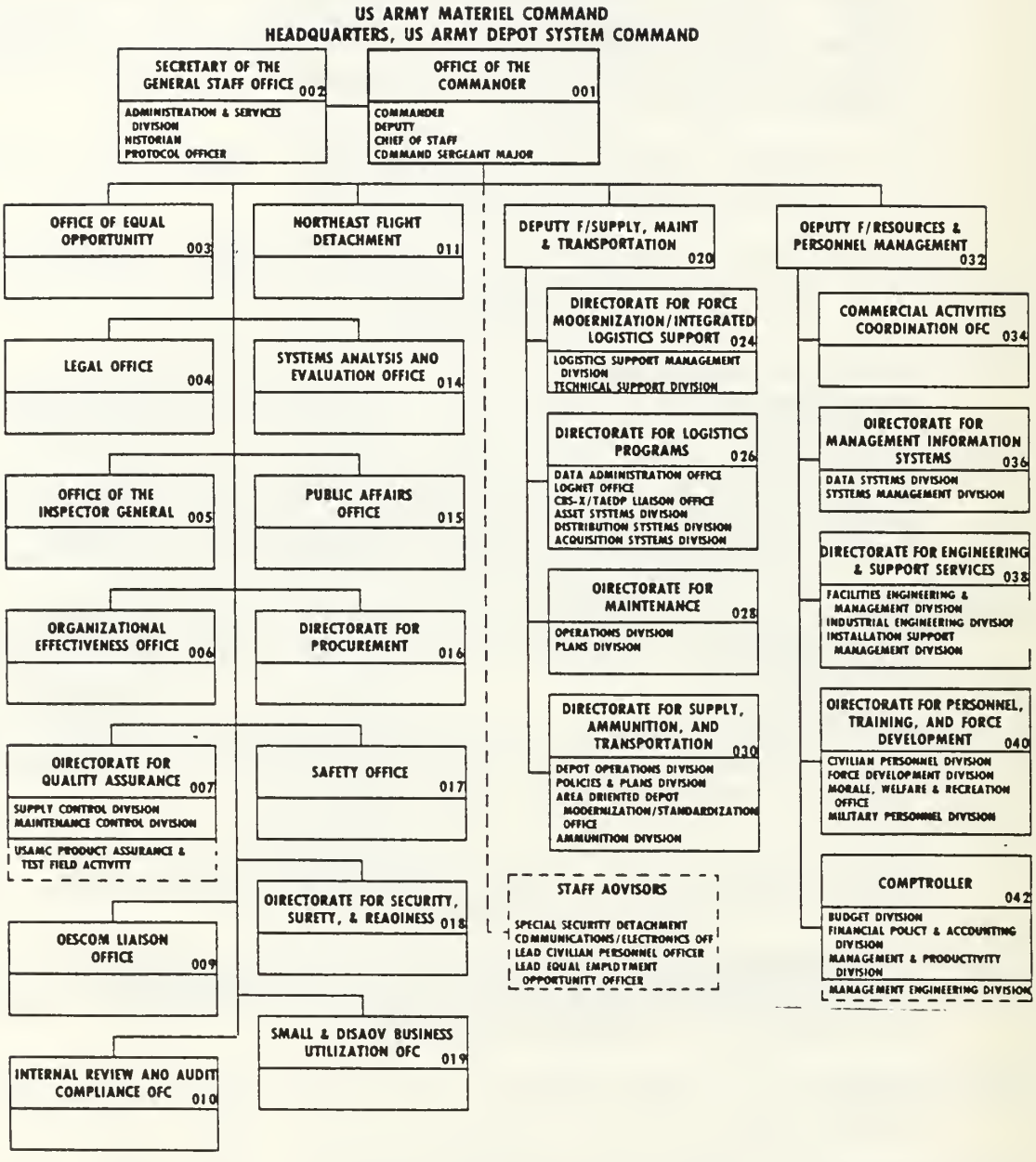
(7) Planning, programing, and allocating maintenance workload to meet U.S. Army readiness requirements for target and outyear programs.

(8) Management and control of overall programing, workloading and scheduling of depot maintenance programs for target and outyear programs.

(9) Reporting disbursements (billing paid) to the appropriate MSC.

(10) Assuring that each depot maintenance activity has a balanced workload (for current and budget years) within available resources through coordination with the MSCs and AMC. (DESCOM-R, 1985)

An organizational structure of DESCOM is depicted in Figure II-4.



Source: Depot Systems Command Regulation 10-2

Figure II-4

3. Functions of the Depot Systems Command

DESCOM's major function is that of coordination between the MSCs, the depots, and AMC on matters of maintenance assignment, disbursements, and financial budgeting matters. (DESCOM-2, 1985) Realizing the special requirements that inter-organizational coordination can impose upon an organization (such as communication and control), DESCOM has established a Liaison Office reporting to the Chief of Staff, DESCOM. The Liaison Office is the DESCOM representative to AMC and keeps the Commanding General, DESCOM, informed of all current U.S. Army programs which have immediate or future interest for DESCOM. Additionally, the office serves as the DESCOM point of contact within AMC for information concerning the management of DESCOM depots and depot activities. The office also serves as the primary point of contact for all elements of DESCOM in congressional matters and manages the Commanding General's program for legislative/congressional matters. Lastly, the office serves as principal staff adviser to the Commanding General, DESCOM, on matters pertaining to the procedural relationships/agreements between DESCOM and AMC. (DESCOM-R, 1985)

Central to DESCOM's control over the budgeting and execution of depot level maintenance is a management tool known as an AMC Procurement Request Order Number (PRON). A PRON is a discrete 14 digit number established for the management control and identification of program directives and

work orders. Additionally, PRONs are used during actual maintenance operations to: (1) track job costs and progress, (2) aid in the preparation of status, performance and delivery reports, and (3) identify contractual obligations undertaken by a depot on behalf of a customer. For planning purposes, PRONs are established by the program element managers of the MSCs for the current year, budget year, and four outyears. A program element manager determines overall Army maintenance policy for a weapon system (e.g., M60A3 tank). The quantities of items within the PRONs are then used as an indicator for future maintenance requirements. Along with the PRONs, DESCOM uses the Operational Plan Summary (OPS-25) series forms and the reimbursable depot maintenance workloads developed by the major commands to arrive at the worldwide Five-Year Depot Maintenance Facility Workload and Resource Plan. OPS-25 series forms refer to direct Army programs and are used to document requirements for the resource planning and programming purposes for all program elements. The five-year plan is updated on a more or less continuing basis. (DARCOM-R, 1982) DESCOM further refines the five-year plan to arrive at projected depot workload for the respective years. DESCOM starts with the projected fielding requirement, (this is obtained from the projected force structure) subtracts units on hand, adds to that units to be received from vendors and the difference is the depots projected maintenance requirements.

The depots receive long-range planning guidance in the form of a magnetic tape twice a year, in February and October. This guidance is based upon the requirements for the three outyears. For example, when a depot receives the tape in October, 1985, the projected requirements represented are for FY87/88/89. For the budget year, the depots receive planned actual workloads (in the form of planned actual PRONs) in May of FY minus one. (Sollenberger, 1985) Planned workloads become funded work orders (depots are authorized to begin work) when a maintenance authorized quantity/man-year citing of funds has been accomplished by DESCOM (operations and maintenance, Army (O&M,A)) and/or MSC reimbursable) and its subsequent acceptance by the performing activity. (DARCOM-R, 1982)

Operations and maintenance funds, which are appropriated by Congress and limited to a specific fiscal year, are used by the customers to pay for work performed by the depots. The depots are part of the Army Industrial Fund (AIF) and as such, their operating funds are revolving (the depots pay for the expenses of their maintenance activities with their funds and are periodically reimbursed as work is completed). The depots use an amount of money known as the corpus to fund their operations. The corpus is approved and allocated by Congress. The revolving aspect of the Army Industrial Fund allows it to sustain itself without requiring additional infusions of cash from Congress. When revenue is

received from the customers for work performed, DESCOM reimburses the depots thereby replenishing the cash to finance future work. (Naval Postgraduate School, 1984) The funds received by the customers are identified with specific PRONs. These funds are then retained by DESCOM and are disbursed to the depots for work completed plus progress payments for work-in-process up to the amount specified in the order. Since the overhaul cycle of a tank is 58 days, tanks entered into repair near the end of the fiscal year would not be completed before the end of September but would be accounted for as work-in-process and the depot would be reimbursed through progress payments.

Customer billings are processed by DESCOM semi-monthly. The billings for reimbursable orders are based upon actual costs incurred. The billings for fixed price (stabilized rate) orders are based upon actual costs incurred except that the total amount billed cannot exceed the dollar figure specified in the order. Revenue for fixed price orders is earned based upon the computation of completed physical quantity times the unit fixed price. The final bill for fixed price orders is based upon completed quantities times the authorized unit fixed price, not actual costs. (DARCOM, 1982)

C. ANNISTON ARMY DEPOT

The individual depots complete the organizational structure of the Army's depot level maintenance effort. For the sake of brevity, all of the depots and their missions/overhaul designations are not addressed. However, generally speaking a depots' mission includes both a supply and a maintenance function. The supply and maintenance functions are combined to generate 11 possible overhaul designations for a depot. Depots are usually designated in four categories, e.g., automotive, combat vehicles, missile systems, and munitions. (DESCOM 10-1, 1984) This chapter concludes with a discussion of Anniston Army Depot, the depot where the research was conducted.

1. History of Anniston Army Depot

While Great Britain was effecting the rescue of over 300,000 allied soldiers from the beach at Dunkirk in 1940, the process to establish a depot in the Anniston, Alabama area was already underway. The Chief of Ordnance was searching for a new facility for the purpose of bomb storage. In November of 1940 an initial land purchase was made for 10,640 acres. Over the years, additional land has been added to bring Anniston to its current acreage of 15,246. This figure does not include the Coosa River Storage area (2,834 acres), located a few miles from the depot, which Anniston uses for storage. Construction at Anniston was begun in early 1941

and the installation was officially designated Anniston Ordnance Depot in October of 1941. Initially, Anniston was receiving about two railroad boxcars of ordnance a day; however, with the increased munitions production accompanying the United States' entrance into World War II, incoming munitions rapidly exceeded 150 boxcars a day. In the latter part of 1943 the Chief of Ordnance ordered that the management of six of the larger depots be transferred to civilians so that the depots might profit by their experience in management techniques. The Chrysler Corporation assumed management of Anniston Ordnance Depot in October, 1943 on a cost-plus-fixed-fee basis. A subsidiary known as the Anniston Warehouse Corporation was organized "to operate the depot as an establishment to receive, store, pack for export and domestic shipment, maintain, modify, and ship ordnance material, and perform such other work as the Contracting Officer may direct" (ANADR 10-2, 1984). During this period, employment reached 6,780. However, in September of 1945 this contract was terminated and the Ordnance Corps once again assumed control of the depot. During the Korean conflict the increased demands on Anniston's capabilities resulted in the construction of Depot Maintenance Shop Building 400. This structure covers approximately five acres and houses the repair and overhaul of vehicles. In 1962 the Office of the Chief of Ordnance was deactivated as a result of the reorganization of the Army. Anniston was redesignated Anniston

Army Depot and placed under the command of the U.S. Army Materiel Command. A major milestone was reached in 1979 when the 2,000th tank rebuild was completed. In 1980 the Lexington-Blue Grass Depot Activity, located in Lexington, Kentucky, was placed under the command of the Commander, Anniston Army Depot. (ANADR 10-2, 1984)

2. Mission of Anniston Army Depot

Currently, Anniston's missions include combat vehicle rebuild and conversion programs, small arms and artillery rebuild, and the maintenance of various missile systems. In addition, Anniston is the largest ammunition storage facility within DESCOM. To achieve its mission, Anniston possess facilities approaching $0.75 billion and an annual operating budget over $250 million. The $120 million payroll provides economic opportunities for the 5,000 employees. It takes that kind of support to manage an inventory valued at $3.2 billion which includes the shipping and receiving of over 400,000 tons of supplies, equipment, and ammunition a year and the repair of over 700 combat vehicles annually. The depot covers overs 25 square miles of land with 2,000 buildings, 8.5 million square feet of floor space, 250 miles of roads, and 46 miles of railroads. (ANADR 10-2, 1984)

In response to management initiatives undertaken by DESCOM, Anniston was designated a Center of Technical Excellence (CTX) to meet the challenge of force modernization. This concept establishes a single point of contact for each

major weapons system. Because of the vast amount of technical expertise and experience available at Anniston, the CTX concept is intended to bridge the gap between producer and customer by ensuring early depot involvement in the life-cycle of new weapons systems. Anniston has been designated the CTX for the M1 Abrams tank, the M60A3 tank and the Hellfire Modular Missile System. (Anniston Army Depot, no date)

3. Organization and Responsibilities

As directed by AMC, the responsibilities of the Commander, Anniston Army Depot are:

(1) Establish production schedules based upon the priority of the weapon system and resource availability, and maintain constant consideration for cost effectiveness when doing so.

(2) Accumulate, record, and report production cost on a total cost basis.

(3) Transmit all program status reports (PSR) to DESCOM.

(4) Report completions and final closeout/billing of all PRONs.

(5) Monitor depot maintenance program expenditures and insure that funds expended do not exceed funds authorized on cost reimbursable programs.

(6) Assure that depot developed unit cost estimates are realistic and definable. (DARCOM-R, 1982)

Excluding the civilian executive assistant and the special staff, the Commander, Anniston Army Depot controls his organization through eight directorates. They are: Maintenance, Supply, Ammunition, Quality Assurance, Administration and Services, Resources Management, Information Management and Procurement. Although located 420 miles away,

Lexington-Blue Grass Depot Activity essentially functioned as Anniston's ninth directorate, until it became a depot on September 15, 1985 (see Figure II-5). A discussion of the directorates follows. The material was adapted from ANADR 10-2.

a. Directorate for Resources Management

The mission of the Resources Management Directorate is to:

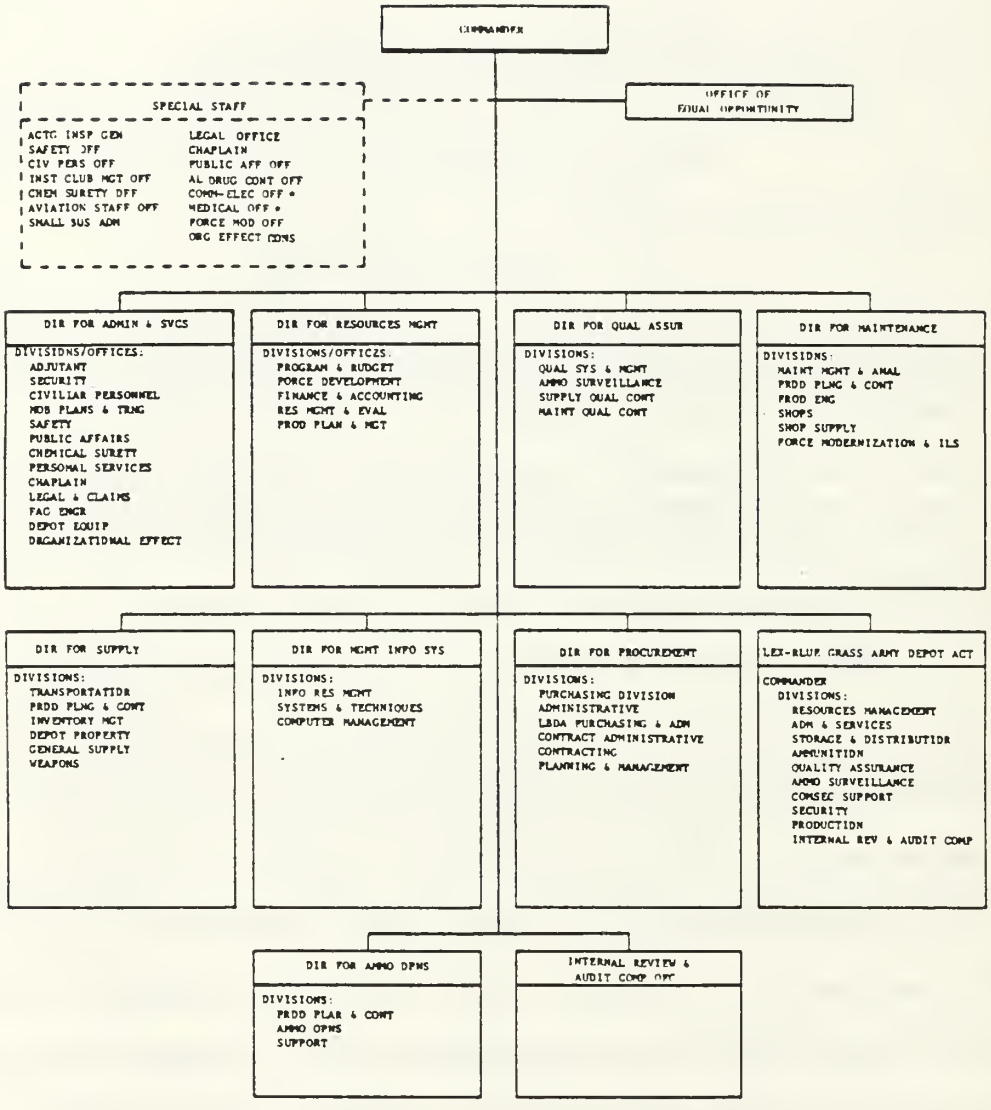
(1) Serve as the depot financial manager,

(2) Assist the Commander in the management of financial resources and the administrative control of funds to include the maintenance of revolving and appropriated fund control procedures,

(3) Provide programming, budgeting, finance and accounting, management review and analysis and industrial Figure II-5 engineering services, and

(4) Provide manpower and organizational control.

To achieve its mission this directorate is organized into five divisions encompassing seven branches. Another important function of this directorate is that of productivity improvement. The directorate strives for production efficiencies whether it is long-range strategic planning (workloads and facilities) or short-term efforts for new equipment. Productivity improvements are planned and generated through better facilities, labor-saving equipment and positive people programs (Quality Circles, Productivity Gain Sharing, and Value Engineering).



Source: Public Affairs Material, Anniston Army Depot

Figure II-5

b. Directorate for Procurement

The mission of the Procurement Directorate is to purchase material and equipment not available through normal supply channels. In addition to procurement, this directorate also contracts for supplies, services and equipment. This directorate's organizational structure consists of six divisions.

c. Directorate for Administration and Services

The mission of this directorate is to:

(1) Provide administrative support to the depot to include adjutant, mobilization and emergency plans, Reserve Force training and non-appropriated fund activities,

(2) Provide administrative and logistical support to the Special Staff,

(3) Provide support services for the depot, including security, facilities engineering, equipment operations and maintenance,

(4) Provide organizational effectiveness services.

This directorate not only provides the personnel services for the employees of the depot but it maintains and repairs over 7,500 pieces of equipment consisting of rolling stock, production machinery, motor vehicles, helicopters, and airplanes. With such a large task, the Directorate for Administration and Services has 800 employees, five divisions, eight offices, and 23 branches to achieve its mission.

d. Directorate for Supply

The mission of the Supply Directorate is to:

(1) Plan, program, manage, and accomplish receipt, storage, inventory, preservation, packaging, issuing and shipping of depot and mission General Supply, and

(2) Provide for the internal movement of material.

Approximately 20 percent of the depot's work force, and a yearly budget of over $45 million, form the core of Supply. It requires those resources to maintain and keep track of the more than 900,000 tons of material that is stored in over six million square feet of covered storage space. As regards shipping, approximately 220,000 line items totalling 154,000 tons were received and 185,000 line items totalling 137,000 tons were shipped during a recent 12 month period. The Directorate for Supply is organized into six divisions and 22 branches.

e. Directorate for Ammunition Operations

The mission of this directorate is to:

(1) Plan, program, manage, and accomplish receipt, storage, preservation, packaging, issuing, and shipping of depot and mission ammunition and missiles,

(2) Perform the renovation, modification, demilitarization and disposal of material,

(3) Provide for the internal movement of material,

(4) Perform maintenance and installation of ammunition peculiar equipment.

Since the Directorate for Ammunition Operations has primary support responsibility for the Lance, TOW, Shillelagh, and Dragon missile systems, it also has the distinction of being the Army's primary anti-tank missile support operation. This directorate employs approximately 250 people and a budget of $5 million to achieve its mission. Recently, the Directorate for Ammunition Operations renovated ten million rounds of ammunition, shipped 28,000 tons of ammunition, and received 3,200 different line items. To support its operations, this directorate is organized into three divisions and seven branches.

f. Directorate for Information Management

The Information Management Directorate performs the following functions in the accomplishment of its mission:

(1) Manages the depot automatic data processing (ADP) management information systems, office automation, ADP security, and ADP communications resources through the life-cycle managment process, and

(2) Provides guidance, advice and assistance to management on technical and procedural matters concerning automated systems design, development, implementation, operation, computer technology, automated communications, and the integration within the total depot.

In order to accomplish its mission, as well as to provide computer services to Lexington-Blue Grass Depot Activity, Rock Island Arsenal and the Tank and Automotive Command, this directorate operates three shifts a day, seven days a week. The Directorate for Management Information

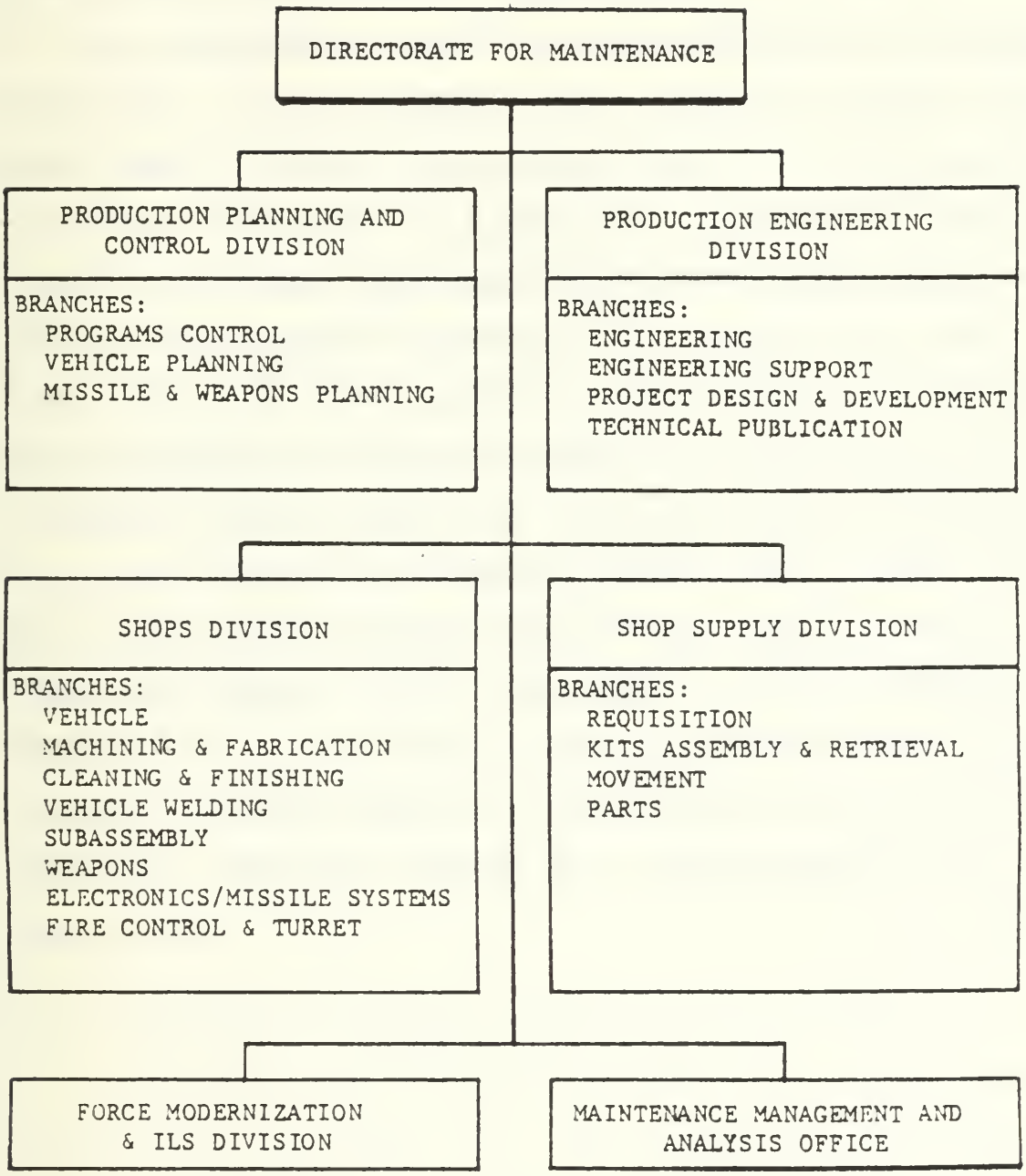
Systems is organized into three divisions encompassing eight branches.

g. Directorate for Quality Assurance

The Quality Assurance Directorate is responsible for quality control depot-wide including, but not restricted to, supply, maintenance, ammunition, and internal calibration. Specifically, this directorate's mission is to develop and administer the technical policies, plans, systems, and controls required to meet the objectives of the Depot Quality Program. This directorate pioneered the oil analysis prognostic/diagnostic program currently in place throughout DESCOM to improve the quality and reliability of tanks, engines and transmissions. The Directorate for Quality Assurance is organized into four divisions with 16 branches.

h. Directorate for Maintenance

The Maintenance Directorate is the largest directorate at Anniston both in terms of dollars and manpower. The mission of this directorate is to perform depot maintenance on assigned weapons, weapons support systems and commodity groups including repair, overhaul, modification or conversion of equipment and material. Maintenance also provides technical assistance to the users of Army material. The Maintenance Directorate is organized into five divisions, 19 branches and one office (see Figure II-6). This directorate's mission is so broad that it employs over 60 percent of



Source: Anniston Army Depot Regulation 10-2

Figure II-6

the entire depot workforce and over one-half of the depot's budget.

In addition to the overhaul and conversion work performed on tanks, Maintenance is also responsible for armored assault vehicles, small arms, mortars, recoilless rifles, optical and electronic fire control items, tank engines, transmissions, and missile guidance and control systems. This directorate not only performs repairs at Anniston, the technicians of the Missile Guidance Branch travel world-wide to modify missile systems. Maintenance maintains a 24-hour hotline to answer maintenance related questions that equipment users may have for weapon systems such as tanks, small arms, missile guidance and control systems for land combat systems, ground and air TOWs, Dragon, Lance, and Shillelagh missiles. (ANADR 10-2, 1984) Not only does Maintenance provide continuous skills training for its in-house labor force, it also provides training for Reserve Components, the National Guard, and foreign nationals (Johnson, 1985).

III. UNIFORM COST ACCOUNTING AND STABILIZED RATES

This chapter describes two cost systems used by depots, they are: (1) Department of Defense (DoD) Instruction 7220.29-H, and (2) stabilized rates. DoD Instruction 7220.29-H dictates the procedures whereby depots record and assign costs; and, the stabilized rate concept is used as a pricing mechanism generating the revenues. DoD Instruction 7220.29-H is a guideline for cost accounting at DoD depots. The subsection of this chapter on DoD Instruction 7220.29-H addresses the objectives and reporting system as described by the instruction. The subsection of this chapter on stabilized rates concerns itself with workload estimation, overhead levels, rate development and rate validation. A stabilized rate is a predetermined dollar amount expressed as a fixed price per unit or a fixed rate per direct labor hour. The rates are used by the depots to bill customers for work performed.

A. DEPARTMENT OF DEFENSE INSTRUCTION 7220.29-H

Referred to as the handbook, Department of Defense (DoD) Instruction 7220.29-H ". . . (a) sets forth a set of principles, standards, policies, definitions and requirements for uniform cost accounting and reporting by all DoD depot maintenance activites, and (b) provides criteria for the

identification and segregation of depot maintenance costs from maintenance support costs and cost accounting and reporting requirements for maintenance support activities" (DoD, 1975).

1. The Objectives of DoD Instruction 7220.29-H

The objectives listed below were obtained from the handbook:

a. The principal objective of this handbook is to establish a uniform cost accounting system for use in accumulating the costs of depot maintenance activities as they relate to the weapon systems supported or items maintained. The handbook provides principles and procedures to assure uniform recordation, accumulation, and reporting on depot maintenance operations and maintenance support activities. The cost system will be controlled by a double-entry, accrual-based general ledger accounting system.

b. The information provided by the cost system will assist in the measurement of productivity, the development of performance and cost standards and determination of areas for management emphasis. In addition, it will provide a means of identifying maintenance capability, duplication of capacity and indicate both actual and potential areas for interservice support of maintenance workload.

2. The Uniform Cost Accounting (UCA) System

The cost accounting standards contained within the handbook apply to government-owned and government-operated facilities. According to the handbook, the standards contained therein were adopted from standards established by the Cost Accounting Standards Board pursuant to Public Law 91-379 (84 USC 796). The standards developed by the Cost Accounting Standards Board are concerned with the application to Federal government contracts of cost accounting areas such as consistency in estimating, accumulating and reporting cost,

the allocation of corporate overhead to specific contracts and the use of standard costs. The basis for cost accumulation as stipulated in the handbook is job order costing. Specifically:

> A job order cost accounting system will be used to gather depot maintenance costs. A job order system is a method of cost accounting whereby costs are compiled for a specific quantity of product, equipment, repair, or other service that moves through the production process as a continually identifiable unit. The applicable material, direct labor, other direct costs, and the allocated portions of overhead are charged to specific job orders.

The handbook requires individual job order assignment for items subject to examination and evaluation when:

(1) Estimated cost is in excess of $90,000 per item,

(2) Monthly, if units have the same identification number (e.g., national stock number) and the per unit estimate of repair is $15,000-$90,000, and

(3) Quarterly, if units have the same identification number and the per unit estimate of repair is less than $15,000. (DoD, 1975)

For units not subject to examination and evaluation, the handbook requires individual job orders when:

(1) Monthly, if units have the same identification number and the per unit estimate of repair is $15,000 or more

(2) Quarterly, if units have the same national stock number and the per unit estimate of repair is less than $15,000 and the cumulative total for the quarter is projected to be $375,000 or more

(3) Quarterly, if homogeneous groupings of items by stock classifications or repair categories where the estimated unit cost is less than $15,000 and the planned work on any one identification number is less than $375,000. An example of a homogeneous grouping would be a subcomponent used in more than one weapon system. The dollar limit for the quarterly group job order is $750,000. (DoD, 1975)

3. Description of the DoD 7220.29-H Reporting System

The handbook directs that each Military Service shall maintain a magnetic tape prepared in accordance with the specifics listed below. The tape is updated quarterly on a cumulative basis for completed job orders. Within 90 days of the end of a fiscal year, a final fiscal year tape is to be submitted to the Assistant Secretary of Defense (Acquisitions and Logistics). Fiscal year-end tapes are to be retained by the services indefinitely since "retention of the data will allow portrayal of weapon system maintenance costs trends" (Department of Defense, 1975). The services are required to maintain the quarterly tapes for two years and are directed to ensure that the tapes are in Extended Binary Coded Decimal Interchange Code (EBCDIC), unblocked or block 10, nine track, and with a tape density of 1600 or 6250 characters per inch. In addition to performing validity checks of the data prior to submission to the Office of the Assistant Secretary of Defense (Acquisition and Logistics), the services have the additional requirement of designing cost and production reporting systems so than an audit trail exists from the quarterly data tape back to the job order. The second requirement is to facilitate the analysis of information. An individual data record is required for each type of depot maintenance work performed for a single customer at an individual activity on the same item or grouping of items identified by national stock number. The data are arranged on the

tape in "fields". There are 50 fields representing five categories:

(1) Record Identification - fields 1-3,

(2) Identification of facility - fields 4-8,

(3) Identification of Item/Service and Customer - fields 9-15,

(4) Costs - fields 17-33, and

(5) Production Data - fields 34-50.

A detailed breakdown of the various fields is presented in Appendix A.

4. Theoretical Foundation of Uniform Cost Accounting

The Uniform Cost Accounting system is a variation of a textbook job order costing system. Job order costing should be designed to collect the cost of materials, labor, and factory overhead for a specific job even though several jobs are going through production at the same time (Matz and Usry, 1984). A brief glance at Appendix A reveals that the Uniform Cost Accounting cost category requirements are very specific. Uniform Cost Accounting does not require separate job orders for each physical unit; rather, units may be grouped together in a lot and the costs of production are charged against one job order. The result, average costs of production for the units in the job order.

Uniform Cost Accounting differs from what accounting theory would lead one to believe in the area of work-in-process. At the end of a reporting period jobs will probably

exist that have not been finished. Normally, these jobs are posted to the work-in-process account. Uniform Cost Accounting specifically excludes all jobs that are not finished. Consequently, there are no provisions for the reporting of jobs in the work-in-process account. However, Anniston maintains approximately $10 million in the work-in-process account. The $10 million represents approximately ten percent of yearly revenues.

B. STABILIZED RATES

Except where specifically noted, the information contained in this section was obtained from Mr. Tim Simmons, DESCOM Budget Officer, and from the document Financial Management of the Army Industrial Fund.

1. Stabilized Rates Defined

The purpose of stabilized rates is to determine in advance the prices that will be charged to the customers by the depots (U. S. House of Representatives, 1978). Accordingly, depots are required to establish fixed rates which may be expressed as costs per man-hour, man-day, unit of output (e.g., fixed price per unit), unit of input, or any other manner which reflects the effort of repair. The primary reason for stabilized rates is, by design, customer convenience. The customers of Anniston Army Depot (primarily the Major Subordinate Commands) operate with appropriated funds. To fulfill the requirements of the DoD component of the

Federal budgeting system (known as PPBS), it is imperative for them to know, with a degree of certainty, what prices they will be charged for depot level work so that they can formulate their budgets for operations and maintenance funds with some confidence.

2. History of Stabilized Rates

During the high inflationary years of the early to mid 1970's the depots found themselves revising their rates upward considerably throughout the budget year. The revision itself normally occurred on a quarterly basis. Since the customer's operations and maintenance accounts did not have sufficient funds to pay for the budgeted workload at the new and increased prices, it became necessary to reduce the number of units to be reworked. As the per unit price increased and available funds remained constant, the customers were forced to submit a fewer number of units to the depots for repair than had been budgeted for by either the customers or the depots. As the workload base decreased, the depots once again found themselves having to revise prices upwards to recoup their fixed expenses as required by the regulations of the Industrial Fund. With double-digit inflation continuing, the situation exacerbated itself. As a result, the Deputy Secretary of Defense revised DoD Directive 7410.4 and established a program for rate stabilization to be used by DoD Industrial Fund activities (e.g., airplane and tank depot

level repair facilities as well as public shipyards). Rate stabilization has been fully implemented since FY77.

Prior to rate stabilization, the Industrial Fund activities (all depots are Industrial Fund activities) were required to develop and use stabilized rates for billing purposes throughout the year. Due to the lead time in rate preparation (approximately two years before the fiscal year) the rates were based upon a three year concept. Prior to FY77 the depots were required to break-even on a yearly basis (a net operating result (NOR) of zero, in other words, revenues=expenses). The rates that the depots billed their customers were updated quarterly (if required) to ensure that revenues and expenses were equal. However, the use of stabilized rates for billing precludes that since the revenues that the depots will earn throughout the year are based on the stabilized rates.

Even though expenses may change during the year, with rare exceptions, the stabilized rates are not revised to reflect current costs. Since the rates are not revised during the year, the accrued profit or loss will be recouped (zeroed-out) with the determination of furture year's stabilized rates. For example, the profit/loss experienced in FY85 will be recouped (zeroed-out) with the determination of FY88 rates. Of course there are other significant contributing factors in the determination of any one year's stabilized rates, but it should be noted that prior years' profit/loss

have a definite role in the process. Referred to previously in this paragraph, the term NOR (net operating result) has two distinct meanings. It can refer to what is generally known as operating profit or it can refer to a surcharge (positive or negative) included in the stabilized rates. For ease of understanding the author has substituted the word profit for NOR when that is the context in which the word is being used.

Under rate stabilization, therefore, the Army Industrial Fund acts like a shock absorber to absorb the financial gains and/or losses occurring throughout a fiscal year until the rates are adjusted in the following years. Since individual depots no longer strive to achieve zero profit, the burden of managing the cumulative profit depot-wide has fallen upon DESCOM since the solvency of the Army Industrial Fund must still be maintained. The depots' financial objective is to end the fiscal year with a predetermined profit or loss.

The process of stabilized rate formulation has two distinct components. One component is the cost application rates that are developed at the depots which form the basis of stabilized rates and the second component is the projection of depot-wide workload requirements for the FY under consideration. The discussion begins with depot-wide workload determination, which includes: (1) a paradox involved in estimating the workload known as the Army Industrial Fund dilemma, (2) DESCOM workload estimation, (3) determination of

overhead levels, and (4) the conversion of labor hours to work-years and dollars. The discussion then focuses on stabilized rate development by Anniston Army Depot. Stabilized rate development includes: (1) man-hour work measurement standards, (2) the internal operating budget, (3) labor and overhead cost development, (4) labor and overhead rate development, (5) stabilized rate development summarized, (6) stabilized rate validation, and (7) stabilized rate revision.

3. Depot-wide Workload Determination

a. The Army Industrial Fund Dilemma

Before addressing Army Industrial Fund workload determination and the subsequent prices that are billed to the customers by the depots, the reader should be made aware of the "AIF dilemma". As with any heavily capitalized enterprise, the depots of the Army Industrial Fund have certain fixed cost that are incurred regardless of the actual workload or variable expenses. The direct labor base used to absorb the fixed cost as a dollar amount per hour significantly affects the ultimate dollar figure. For example, assume that a hypothetical depot has fixed cost of $15 million. In addition, with each direct labor hour worked variable cost will also be incurred. Assume that the labor base is one million direct hours and variable cost are $35 million. The combined fixed and variable cost are $50 million. Divided by one million direct labor hours the cost per hour is $50. However, if only 750 thousand direct labor hours had

been worked, the total cost would be $42.5 million for a rate of $56.67 per direct labor hour. The result is that as workload decreases incurred cost per direct labor hour increases. Therefore, before the depots can give the customers a firm fixed price or fixed rate per hour that it will charge the customers, the customers must tell the depots how much workload they intend upon ordering. The paradox exists because the customers cannot know how much work they will order until they know the price that will be charged. Since customers deal with appropriated funds (primarily O&M,A) they arrive at their workload ordering capability by dividing appropriations by fixed price per unit to yield funded units of work. However, the fixed price cannot be determined by the depots until they know the projected workload. To help overcome this dilemma, the formulation process is begun by estimating the workload based upon available funding.

b. DESCOM Workload Estimation

Workload estimation begins during the first quarter two years before budget execution (e.g., November, 1985 for FY87). The National Maintenance Points of the Commodity Commands determine their workload estimates based upon the funding guidance from Headquarters, Army Materiel Command. This projected workload is contained in the OPS-25 Workload Summary and is loaded into the DESCOM Master File for Maintenance. DESCOM uses this information to update the Army Material Plan, which is a five-year maintenance forecast.

DESCOM then projects target year maintenance requirements by taking the projected equipment requirements inherent in the proposed force structure, adding to that weapons to be delivered by vendors, subtracting weapons on hand, and the difference is the depots requirement [Solenberger, 1985].

Once the workload has been identified, historical performance standards are used to express the workload in direct labor terms. The total direct labor hour requirement is then compared to the funding guidance received from AMC to determine the workload (in direct labor hours) to be funded. Based upon the direct labor hour levels of the maintenance, supply and other programs in existence at a depot, DESCOM determines the supporting overhead labor required and develops a preliminary AIF budget. The direct labor hours in the budget are based on anticipated workload. The indirect labor hours are based upon direct/indirect ratios. (DESCOM, 1985) The budget, which is described in more detail later, is developed by negotiations in a workshop with each depot. The preliminary budget is given to the depot and the depot presents its counter-proposal, if required. The negotiated preliminary budget, known as the mark, is then presented to the DESCOM Commander for final approval. Currently, the depot commanders are to be personally present when this mark is presented to the DESCOM Commander. Once approved, it serves as the approved operating financial plan for the depot.

c. Determination of Overhead Levels

The determination of the overhead levels of the budget is a major part of the negotiation/approval process. The mission indirect labor hours are subjectively determined based primarily upon attempting to maintain or improve the direct-to-total labor hour ratio and any other known factors which might impact the overhead labor (e.g., additional depot support missions not involving direct labor, supervisory manning levels). If, for example, the workload is increasing, a depot is pressed for an improvement in the direct-to-total ratio; however, with a declining workload, an improvement will not be pressed. Additional overhead hours will be added to the budget if the situation warrants. For example, if a special project office is added to a depot for the purpose of, say, the coordination of modernization efforts, this development would be viewed as a justifiable increase. These people are mission overhead and to the extent that they cannot be absorbed within the existing overhead, additional overhead hours are allowed.

The base operations overhead receives similar treatment. Depots are expected to reduce base operations overhead, however, if a depot can identify specific new requirements then additional overhead hours may be allowed. Base operations overhead is treated in more detail in a later section.

d. Conversion of Labor Hours to Workyears and Dollars

Once the direct and indirect labor hours are determined, the overtime usage is determined based primarily upon past history or, as happened in the FY85 budget, a decision to increase overtime usage in order to increase the hours available with less people. The labor hours are divided by the productive hours per work-year for regular time hours and by 2088 hours for overtime to determine work-years (DESCOM, 1985). The productive hours per work-year varies by depot and by mission. An emphasis is placed upon getting more productive hours per regular work-year. After determining the regular work-years, the manpower requirements are determined based upon current staffing levels and an internal goal to use a core workforce of 90 percent full-time permanent appointments with the remaining workforce comprised of various alternative appointments such as temporaries and on-call employees.

Following the manpower determination, the dollars to support the manpower is determined based upon direct dollars per direct labor hour and indirect dollars per indirect labor hour. The budget year dollar figure per direct labor hour and indirect labor hour is obtained by multiplying the current dollar figure per direct labor hour and indirect labor hour by an inflation factor obtained from the Office of the Secretary of Defense (OSD). The inflation factor is identical to that used in the President's Budget.

After the workload and dollars are developed, the rate and price setting process begins. Workload from DESCOMs Master File for Maintenance is provided to the depots for them to develop their initial fixed prices. The depots submit these prices to DESCOM for validation and adjustment to conform with the approved AIF budget. The approved stabilized rates are then used for the budget year prices and the rates are given to the customers. This process is discussed in more detail later.

4. Stabilized Rate Development at Anniston Army Depot

Stabilized rates are used by two directorates at Anniston Army Depot, Supply and Maintenance. The Directorate of Supply uses stabilized rates to bill customers for materials receipted, stored and shipped. The units of measurement are usually expressed in tons (e.g., X dollars per ton of ammunition shipped). The stabilized rates of the Supply Directorate do not include material charges since all materials handled by Supply are financed through the Army's Stock Fund. The Directorate of Maintenance uses stabilized rates to bill customers for work performed (e.g., the overhaul of a tank or the rebuilding of a Howitzer). The stabilized rates developed by Anniston consist of three components: (1) the cost application rate, (2) the materials charge, and (3) other (e.g., travel, commercial contracting). The cost application rate is a summarized cost of labor and overhead within a cost center (more on this later).

Stabilized rates come in two forms: (1) fixed price per unit, and (2) fixed rate per direct labor hour. Since over 80 percent of Anniston's workload is based upon the fixed price per unit concept, the discussion on stabilized rate development refers to fixed prices per unit. The development of fixed rates per direct labor hour is accomplished in a similar manner. The fixed rate per direct labor hour includes all of the costs included in the fixed rate per unit except material charges. Actual material charges are expensed to a job when the work is being performed.

a. Man-hour Work Measurement Standards

One of the components of a fixed price is the man-hour work measurement standard. Based upon the Depot Maintenance Work Requirement (DMWR), technical manuals for maintenance and the historical experience of earned work measurement standard hours per line item, man-hour standards are set which become the basis for production control, performance and productivity measurement, and the key to fixed price development. In developing the prices, the labor cost is determined by multiplying the work measurement standard by the labor rate for each cost center involved. This labor rate is the current average rate for the cost center which was determined through the internal operating budget.

There are two types of work measurement standards: the engineered standard and the technical estimate standard. Both standards are established at the detail

operation code level (e.g., disassembly and painting). The detail operation code is listed along with the employees' time on the Labor & Production Cards and they are tied back to a Job Order/Production Control Number (JO/PCN). The JO/PCN is a local derivative of the Army Materiel Command Procurement Request Order Number (PRON). Labor production and hours are reported by employees on labor and production cards. Each day, the shop supervisor prepares the cards by individual employees and turns them into a production clerk (Wood, 1985). The Standard Depot System determines the earned hours against the production standards and provides the cost centers and other managers with an assessment of performance.

To determine the engineered standards, the industrial engineers perform a time-motion study on selected employees performing the required operations on a representative sample of the standard to be developed/updated. The standards are reviewed and updated continually as required (e.g., when scope of work and/or technological changes are present) (Johnson, 1985). DoD Instruction 7220.29-H requires revision at least every two years. Twenty-four percent of the total maintenance manhours reported during the first half of FY85 were covered by engineered standards. This percentage represents coverage against all maintenance labor hours including direct, indirect and supervisory manhours. Since the engineered standards are designed to reflect direct labor

hours only, the engineered standards coverage is actually much higher than 24 percent suggests. In fact, approximately 38 percent of the direct labor hours are covered by engineered standards (Gaddy, 1985).

The second type of work measurement standard is the technical estimate. The industrial engineers prepare this standard using historical, statistical and technical data. The primary difference between the technical estimate and the engineered standard is that a time-motion study is not performed while formulating the technical estimate. Approximately 50 percent of incurred maintenance hours are covered by technical estimates. JO/PCN's covered by technical estimates are converted to fixed price contracts at the 50 percent completion point. The remaining 12 percent of maintenance hours are not covered by measurable standards. These hours are covered by man-hour allowances which basically state that an hour worked is an hour earned. Examples of man-hour allowances are the production planning and control functions and clerical support. (Johnson, 1985)

Cost data are accumulated for approximately 120 cost centers in the Maintenance Directorate, but for rate development purposes the costs are pooled into eight productive cost centers and five indirect cost centers (Gaddy, 1985). These costs are known as cost application rates. Material and other direct cost are determined based upon historical data (the mortality files). Historical mortality

files are maintained on all line items previously repaired at Anniston and it is this file that is the basis for material requirements. Officially, the file is known as the End Item Materiel Data Record (EIMDR). If a labor and material usage standard does not exist (e.g., an item not previously repaired) then the industrial engineers formulate a standard based upon time-motion studies and available statistical information. The overhead cost is then added based on the man-hour work measurement standard multiplied by the various hourly overhead rates for the involved cost centers. The cost application rates are the current costing rates determined through the internal operating budget (IOB) which is discussed in detail below. Known or anticipated productivity adjustments which are to occur prior to or during the budget year are then subtracted from the cost by individual element as appropriate. The productivity adjustment may be known or unknown; in any case, if a depot does not apply an adjustment then DESCOM will apply one (e.g., a nominal two percent) (Monroe, 1985). All of these cost estimates are made by the depot and submitted to DESCOM. Besides other adjustments, a net operating result (NOR) factor is applied based upon a rate per direct labor hour. In accordance with policy established by the Office of the Secretary of Defense, the same rate (by mission) is used across the board at all depots. The final result is the unadjusted budgeted fixed price.

b. The Internal Operating Budget

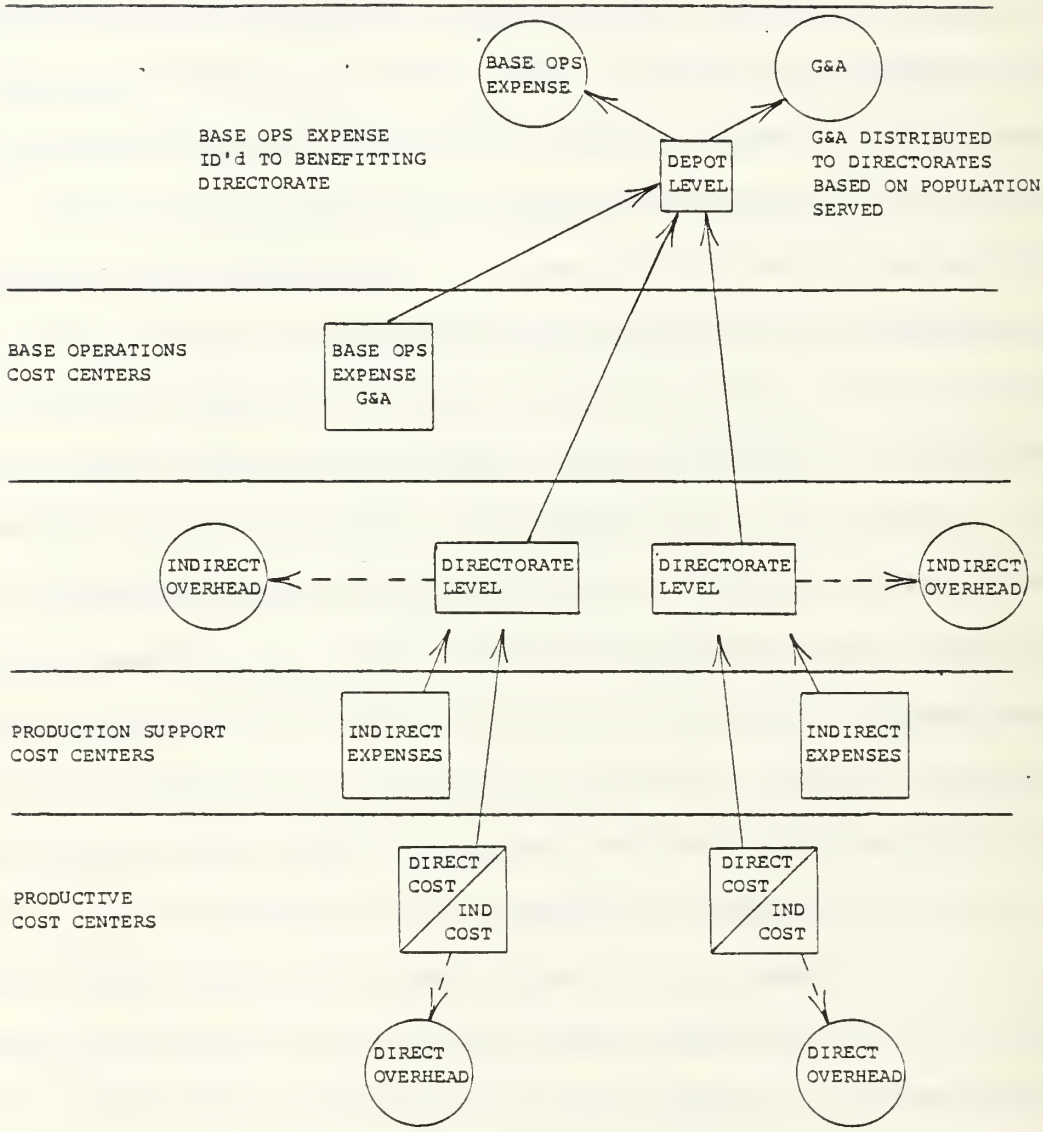
The internal operating budget (IOB) is an internally prepared budget utilized throughout the depot system. It provides each cost center and the depot as a whole with an operating plan for manpower and expenses and is approved by the Depot Commander. The IOB does not leave the depot, it is an internal document. There are two purposes served by the IOB. First, the IOB provides a means to manage and control expenses at the local level by providing each cost center supervisor with a monthly financial plan. To gauge depot performance, a monthly financial status report is generated comparing actual performance against budgeted performance. A detailed analysis of all variances are included in the report to aid appropriate management action. Excerpts of the financial status report are presented in Appendix B. A second purpose of the IOB is to develop the cost application rates for Anniston. A cost application rate is a predetermined rate which identifies the cost per direct labor hour for each cost center and is the initial basis for what is later known as a stabilized rate. This rate is used to determine the cost of accomplishing workload within that cost center. Properly developed the cost application rate will be an average rate used for the entire year and by year end actual costs will be within one percent of the applied costs. Any deviations between applied and incurred cost is reflected in the variance accounts of the accounting system and are

closed to the operating result at year end. During the year, these variances can be significant. For example, during the winter months, the monthly utility bills are high as a consequence of heating cost. Since the cost application rates average the monthly utility bills, the utility bill component of the cost application rates is constant throughout the year. As a result, actual costs are higher during the winter months than are applied costs. During the spring and summer months, the reverse is true. If during the year, the depot's evaluation indicates that the year end variance will be more than one percent of the total, then a revision to the IOB is required to adjust the cost application rates. This revision is usually made quarterly, or as required. The revision is for internal control purposes and reimburseable order charges. The revision does not impact the prices charged to customers during the current year for fixed price/rate orders. However, the cost application rates that are current in April of 1985 form the basis of FY 87's stabilized rates.

c. Labor and Overhead Cost Development

Figure III-1 describes the development of cost from the cost center level through the various intermediate organizational levels to the depot total. The square blocks represent cost activities. The circles represent overhead "pools" which collect cost for developing overhead rate applications. Starting at the bottom, the productive cost centers prepare their labor cost input. The productive cost

LABOR AND OVERHEAD COST DEVELOPMENT



Source: Financial Management of the Army Industrial Fund

Figure III-1

centers are those that are involved in direct labor work and have both direct and indirect labor expenses. The labor rate used for a cost center is a weighted average and is accelerated to recover fringe benefits (e.g., vacation pay and sick leave). The indirect expenses are accumulated in an overhead pool called "within shop overhead" (hereafter referred to as direct overhead). An example of this overhead would be the cost center supervisor and any material cost that is not directly identifiable to a job.

The next level of cost centers is called productive support. These are the cost centers which are overhead to the general mission and their costs cannot be identified with a specific productive cost center. Examples are the production planning and control divisions, the Directorate for Maintenance office, and the Directorate for Quality Assurance which is not economically identified with a specific end item or process. These costs are summarized to directorate level and accumulated in an overhead pool called "above shop overhead" (hereafter referred to as indirect overhead).

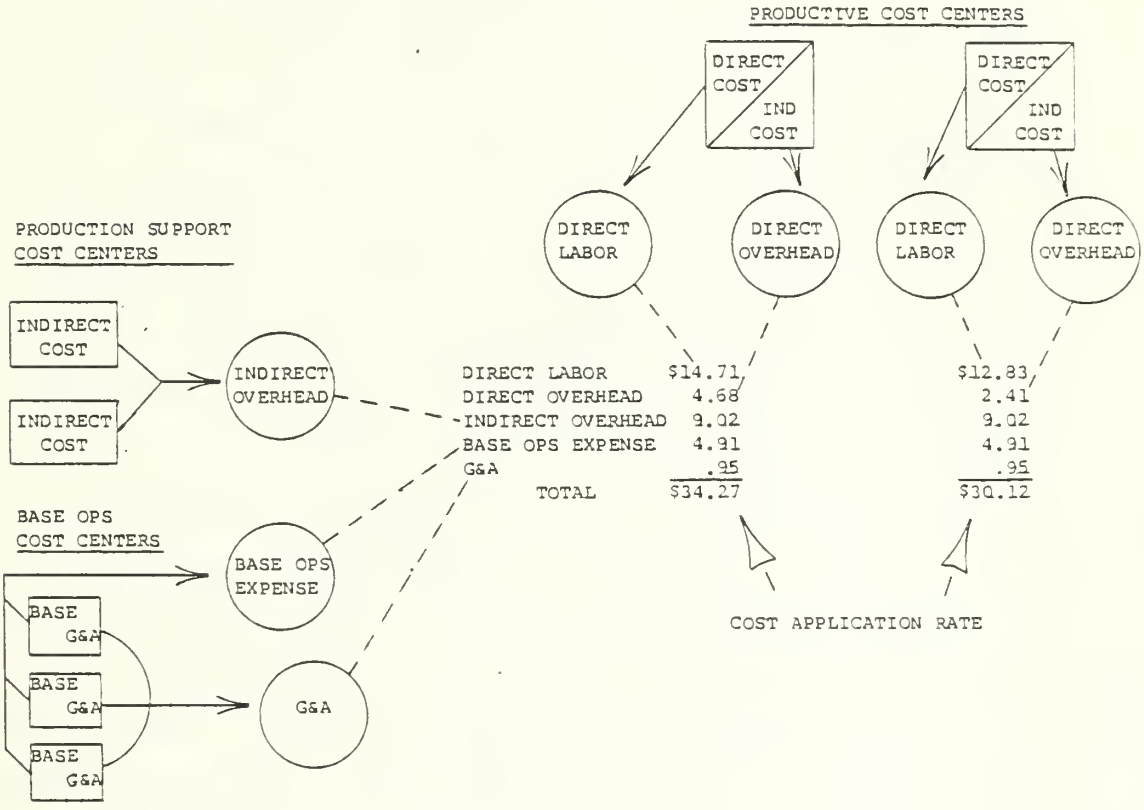
The base operations cost centers are summarized to the depot level where their cost are accumulated in two overhead pools called "base operations cost indirect expense" (BOCIE) and "general and administrative expense" (GAE). To comply with generally accepted conventions, general and administrative expense will be referred to as G&A. BOCIE

(hereafter referred to as base operations expense) is the base operations cost which can be directly identifiable to a benefiting directorate. Examples are the utility cost and the facility engineering projects in support of the Directorate for Maintenance and the guard force directly identifiable to supporting the Directorate for Ammunition. G&A consist of all other base operations support which cannot be identified to specific directorates. Examples are the Comptroller staff and the guard force responsible for overall security, (e.g., the gate guards).

d. Labor and Overhead Cost Application Rate Development

Figure III-2 presents how the overhead is applied the productive cost centers. The two productive cost centers at the right have two elements of cost which become a part of the cost application rate for these cost centers. The first is the direct labor cost and the second is the direct overhead cost for that cost center. These rates are established at the branch level. To these rates, indirect overhead, base operations expense and G&A rates per direct labor hour are added. Separate rates for these overhead categories are established at directorate level; therefore, each productive cost center within a directorate will have the same indirect overhead, base operations expense and G&A rates as shown in this example. The result is the cost application rates.

LABOR AND OVERHEAD RATE DEVELOPMENT



Source: Financial Management of the Army Industrial Fund

Figure III-2

The significance of these rates is that they are the labor and overhead component used by Anniston when it initially determines its unadjusted stabilized rates. For example, if the man-hour standard for the overhaul of a piece of equipment was two hours, the labor and overhead component of the fixed price for the cost center on the left in Figure III-2 would be two times $34.27 or $68.54. To this number the material costs would be added and the result would be an unadjusted fixed price per unit. This assumes only one cost center was involved in the overhaul and there were no "other" costs to be considered (e.g., travel). The man-hour standards used to multiply against the cost application rates are locally prepared and are obtained from the work measurement standards, the next topic of discussion.

e. Stabilized Rate Development Summarized

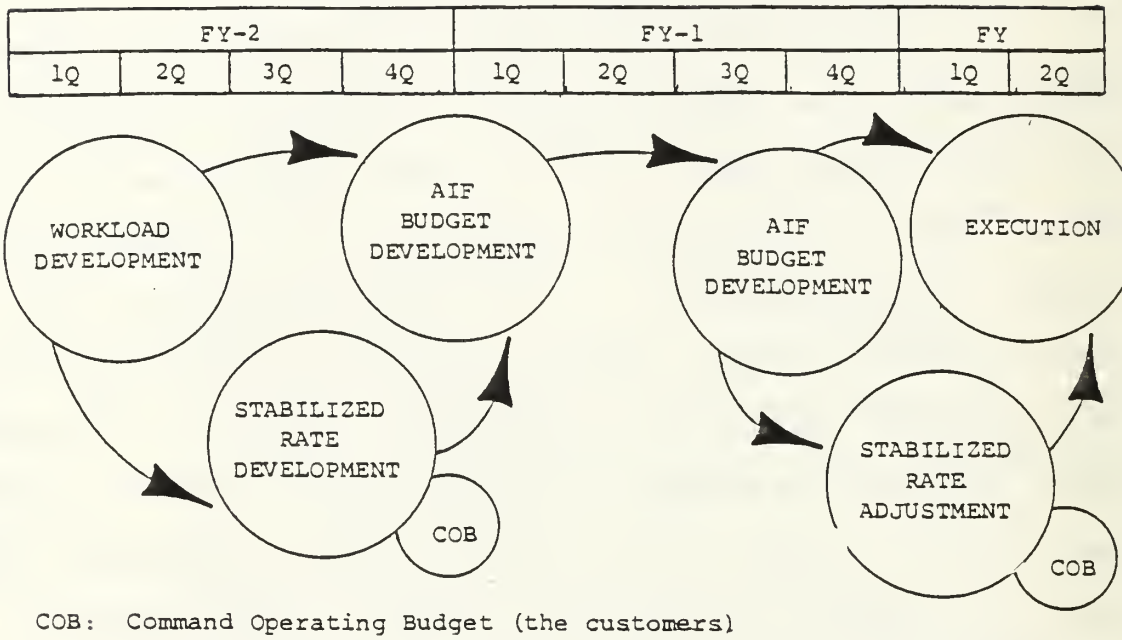
To develop a stabilized rate for a piece of equipment, Anniston multiplies the cost application rates of the individual cost centers by the manhour standard for each cost center listed in the Depot Maintenance Work Requirement. This yields the current cost of labor and overhead. A bill of materials is developed for the piece of equipment using the End Item Materiel Data Record. The cost of the bill of materials is computed by multiplying the absolute amount of materials by the current cost per unit (e.g., five pounds of bolts times $1.00 per pound equals $5.00). By adding the current cost of labor and overhead to the material cost per

unit and any "other" cost, the fixed price per unit is determined. Anniston then submits this unadjusted stabilized rate to DESCOM. A summary timeline for this process is presented in the left side of Figure III-3. The right side of Figure III-3 presents the remainder of the process.

The process that has been described is typical of what one would expect to find in an accounting textbook describing standard cost. What has been described as a stabilized rate is actually a variation on the standard costing theme. A standard cost ". . . is the predetermined cost of manufacturing a single unit or a number of product units during a specific period in the immediate future. A standard cost has two components: a standard and a cost." A standard must be thought of as a norm in terms of specific items, such as pounds of materials, hours of labor required, and percentage of plant capacity to be used." (Matz & Usry, 1984)

The process that Anniston goes through to arrive at what is known as the unadjusted stabilized rate is exactly what one would expect. The projected plant capacity usage is defined by DESCOM. The standards that are used are the man-hour standards and the bill of materials standards already discussed. The last portion of the standard cost is the cost application rate which expresses current hourly costs of operations for a workcenter. Consequently, when Anniston compiles the unadjusted stabilized rate, the resultant figure is an accurate representation of current costs.

THE AIF BUDGET & STABILIZED RATE FORMULATION CYCLE



COB: Command Operating Budget (the customers)
Note: Notice how the AIF budget, stabilized rates and customer budgets are interdependent.

Figure 3-3

Source: Financial Management of the Army Industrial Fund

Figure III-3

Although Anniston's unadjusted stabilized rate represents current costs, the manipulations of the stabilized rates by DESCOM changes the stabilized rates by such a degree that they no longer reflect the projected costs of operations. As a consequence, what is known as the adjusted stabilized rates (the ones Anniston bills customers with) are not intended to reflect the costs of operations at Anniston. The reasons for and the methods to achieve this are explained below.

f. The Stabilized Rate Validation Process

Once Anniston has arrived at an unadjusted fixed price for some item (e.g., a widget), the price then goes through a six step validation process. The six steps are: (1) the primary cost elements are identified, (2) the sources are documented, (3) man-hour standards are checked for currency, (4) the rates are put in the prescribed formats, (5) the math is verified, and (6) the narratives are are reviewed for logic. The Directorate for Resource Management is responsible for the verification process. These actions are after the Production Planning and Control Division of the Maintenance Directorate has prepared, documented and internally validated the rates. An explanation of the six steps follows:

(1) Primary cost elements are identified: from the perspective of the entire fixed price per unit, individual cost items are broken out that exceed ten percent of the total price.

(2) Sources documented: the sources for the four main components of fixed prices are individually identified:

Direct labor: rate standards file and man-hour standards file

Overhead: man-hour standards and overhead rates

Materials: EIMDR (based on consumption)

Other: EIMDR

(3) Current man-hour standards: current man-hour standards are the key in the determination of many fixed price computations. Accordingly, the standards used on the 980 form (fixed price development sheet) are verified against the EIMDR.

(4) Data in prescribed format: essentially an administrative check to ensure that the fixed prices are in the proper format and on the proper forms for submission to DESCOM.

(5) Math is correct: self-explanatory

(6) Narratives are logical: narratives are most often used when non-standard data sources are used in rate formulation, (e.g., new DMWR, new or updated mortality data, line item not previously repaired.) (Anniston, no date)

The remaining discussion in this chapter addresses the manipulations that the stabilized rates undergo once they have been submitted to DESCOM by Anniston.

g. Stabilized Rate Validation to the Budget Mark

As a part of DESCOM's validation process, the individual fixed prices times program quantities are summarized to reflect the following factors: (1) direct labor, material and other are combined to a category called direct expenses per direct labor hour, (2) mission overhead per direct labor hour, (3) base operations indirect expenses per direct labor

hour, (4) general and administrative expenses per direct labor hour, (5) NOR, and (6) fixed price per direct labor hour. The above costs are summarized and the ratios of each category of costs to direct labor hour are taken because it is these ratios that form the basis of the budget, not absolute dollars. The guideline for spending is the ratio of the expense category to direct labor hours, not a dollar total. For example, if direct labor hours are below the budget dollar total and total direct expenses are also below the budget dollar total, that does not mean that there are excess funds in the direct expenses category which are uncommitted (e.g., available for spending). The budget is expressed in terms of direct expenses, mission overhead, etc. per direct labor hour and not X dollars for direct labor and Y dollars for overhead. (DESCOM, 1985) All six expense areas are categorically compared to the budget mark with the exception of fixed price per direct labor hour--that is compared to net revenue per direct labor hour (a DESCOM term to be discussed later). Once the factors are compared with the approved budget mark necessary adjustments are made to ensure that the budgeted fixed prices conform to the rates reflected in the AIF budget in order to arrive at the adjusted fixed price. This is not, however, the ultimate rate used for customer billing (revenue generation).

h. DESCOM Adjustments to the Stabilized Rates

DESCOM applies five categories of adjustments to the unadjusted rates submitted by the depots. They are: (1) inflation, (2) productivity gains, (3) foreseen production changes for the target year during the rate formulation time period, (4) the Asset Capitalization Program, and (5) NOR. Four of the adjustment categories have already been addressed. The fifth, the Asset Capitalization Program (ACP) is a surcharge added to the stabilized rates to raise revenue to fund capital equipment at the depots. Although a specific depot's contribution to the program is gauged by its output, the disbursements of the funds are at the discretion of DESCOM. Consequently, no relationship exists between the amount of funds generated by a depot and the amount of ACP monies that depot will receive for capital projects. The Asset Capitalization Program surcharge is included in the NOR adjustment of the final stabilized rates used to bill customers. For example, the NOR for FY87 is a positive $8.00 per direct labor hour. The Asset Capitalization Program surcharge contained within the $8.00 is approximately $3.50. (Lewis, 1985)

Net Revenue is a DESCOM term which is the sum of revenue and the change in work-in-process. Net revenue is used as a DESCOM level management tool because expenses and earned revenue are adjusted by the change in work-in-process when determining the NOR. Actual revenue is not earned until

a product is completed; however, the change in work-in-process is treated as quasi-revenue for NOR computation purposes. "When comparing to direct labor hours, net revenue is an excellent management tool and, hence, the net revenue per direct labor hour is used in the budget" (DESCOM, 1985). Net revenue has another purpose in that net revenue per direct labor hour is the primary tool used by DESCOM to tie the AIF budget to the appropriated funds budgets. After the AIF budget has been formulated, the Office of the Secretary of Defense (OSD) determines the final changes, if any, to stabilized rates. For example, based on OSD decisions for the FY86 DESCOM AIF budget, the overall rate for net revenue per direct labor hour changed from FY85 by minus 13 percent for maintenance and minus 10 percent for supply.

The AIF budget itself is a 200 plus page document which has backup and supporting documentation. The core of the budget is the "A" and "IF" statements. The AIF budget mark is an extraction of these statements into a series of key management indicators: (1) man-years, (2) direct labor hours, (3) direct expenses per direct labor hours, (4) overhead expenses, (5) total expenses per direct labor hours, (6) net revenue per direct labor hours, and (7) NOR (net revenue minus total expenses).

Figure III-4 represents the fixed price for receiving a ton of AMMO which was submitted by a depot to DESCOM in April 1984 for the FY86 AIF budget. The standard

DIRECTORATE OF SUPPLY
FIXED PRICE--AMMO RECEIPT
DEPOT SUBMISSION OF FY86 FIXED PRICE

APRIL 1984

DIRECT LABOR	2.11 hrs	X	$13.76 =	$29.03
DIR MATERIAL				0
OTHER DIR				0
OVERHEAD				
DIRECT	2.11 hrs	X	$6.36 =	$13.43
INDIRECT	2.11 hrs	X	$3.64 =	$ 7.69
BASE OPS	2.11 hrs	X	$7.17 =	$15.12
G&A	2.11 hrs	X	$1.06 =	$ 2.25
TOTAL EXPENSES				$67.52
NOR				0
TOTAL FIXED PRICE				$67.52

Figure III-4

Source: Financial Management of the Army Industrial Fund

was 2.11 hours to receive one ton of ammunition. The actual documentation provided by the depot identified the hours in each work center involved and by multiplying the labor rate for each work center the direct labor cost was determined. For illustrative purposes, the labor rate for the involved cost centers has been averaged to the $13.76 shown in Figure III-4. The $13.76 represents the average actual labor rates being used by the involved cost centers in FY 84 when this estimate was made. In this example, there are no material or other direct costs to consider since the example is from the Supply Directorate. The 2.11 hours were multiplied by the direct overhead, indirect overhead, base operations expense and general and administrative rates as shown to determine the total expenses per ton. The depot does not add the NOR factor since it is determined at DESCOM as the budget is being developed.

At the same time the depots are developing their input to the fixed prices, the depots are negotiating their budgets with DESCOM. Once the budgets are finalized, the rates per hour submitted by the depots are adjusted to conform to the budget and a NOR per hour is added (either positive or negative). The increases to the rate in Figure III-5 reflect the inflation adjustments approved by the Office of the Secretary of Defense. The depots submit their prices in current dollars and the four percent increase in the expenses to $70.24 is the result of the inflation adjustment.

DIRECTORATE OF SUPPLY
FIXED PRICE--AMMO RECEIPT
AIF BUDGET ADJUSTMENT OF FY86 FIXED PRICE

APRIL 1984

DIR LABOR	2.11 hrs	X	$14.49 =	$30.57
DIR MATERIAL				0
OTHER DIR				0
OVERHEAD				
DIRECT	2.11 hrs	X	$7.02 =	$14.81
INDIRECT	2.11 hrs	X	$4.01 =	$ 8.46
BASE OPS	2.11 hrs	X	$6.73 =	$14.21
G&A	2.11 hrs	X	$1.04 =	$ 2.19
TOTAL EXPENSES				$70.24
NOR	2.11 hrs	X	$-1.14 =	$-2.41
TOTAL FIXED PRICE				$67.83

Figure III-5

Source: Financial Management of the Army Industrial Fund

The $1.14 per hour negative NOR adjustment was the same for all supply mission stabilized rates throughout DESCOM. All maintenance stabilized rates also receive universal NOR adjustment.

The AIF budget cycle continues by using the depot budgets mentioned in the previous paragraph. The depots submit formal AIF budgets which tie back to the previously approved, individually negotiated budgets. DESCOM consolidates these budgets and makes necessary adjustments for Program Budget Guidance (PBG) changes and other known changes contained in the customers' Command Operating Budget (COB). Following the submission of the AIF budget, further adjustments are made as a part of the Program Budget Decision as the Federal budgeting system continues. Meanwhile, the depots begin the Internal Operating Budget process in anticipation of beginning the upcoming fiscal year.

Once the presidential budget is submitted, DESCOM receives the final Program Budget Decision (PBD) markup of the AIF budget. Based on this markup, the AIF budget is adjusted and the fixed prices and rates are adjusted accordingly and used as the final approved stabilized rates in the current year column of the next Command Operating Budget. The adjustment is an across the board percentage adjustment (if required) to maintain the balance of funds mentioned in the previous paragraph. The final stabilized rates that will be used for billing purposes throughout the fiscal year are

given to the depots two to three months before the start of a fiscal year. Figure III-6 demonstrates how the adjustments are made.

The Program Budget Decision adjustments are made to the expenses, revenue, and labor hours of the AIF budget and the depots budgets are adjusted accordingly. Once the adjustments are made to the depots' budgets, the fixed prices for the budget year are again adjusted to agree to each depot's budget.

Figure III-6 demonstrates the changes that were made to the FY86 price previously submitted by a depot. That price was $67.83 per ton; however, Program Budget Decision adjustments such as the five percent pay reduction caused the expensing levels to decrease. (Note: The five percent salary reduction was based upon a comment made by President Reagan that he desired to see Federal civilian wages trimmed by five percent to help alleviate the Federal budget deficits. Of course, this has not transpired but the comment found itself embodied in the Planning, Programming, Budgeting System (PPBS) throughout the Department of Defense (Tase, 1985).) After all expensing rate adjustments were made, the necessary NOR was determined which would achieve an overall supply mission rate decrease of ten percent from FY85 as directed by PBD 408C. The result was a $2.17 per hour loss. Therefore, for the depot that submitted $67.83 as the unadjusted fixed

DIRECTORATE OF SUPPLY
FIXED PRICE--AMMO RECEIPT
PBD ADJUSTMENT OF FY86 FIXED PRICE

APRIL 1985

DIR LABOR	2.11 hrs	X	$13.41 =	$28.29
DIR MATERIAL				0
OTHER DIR				0
OVERHEAD				
DIRECT	2.11 hrs	X	$6.62 =	$13.96
INDIRECT	2.11 hrs	X	$3.78 =	$ 7.98
BASE OPS	2.11 hrs	X	$5.65 =	$11.93
G&A	2.11 hrs	X	$1.03 =	$ 2.17
TOTAL EXPENSES				$64.33
NOR	2.11 hrs	X	$-2.17 =	$-4.58
TOTAL FIXED PRICE				$59.75

Figure III-6

Source: Financial Management of the Army Industrial Fund

price per unit, $59.75 will be earned for each ton of ammunition received.

i. Stabilized Rate Revision

As events transpire during the year numerous assumptions that were made during the stabilized rate formulation process may prove to be in error. The most common areas of concern are civilian wages, inflation, scope of work and enhanced depot capability. The greater the assumptions change the less the stabilized rates reflect Anniston's costs. For example, assume that the tanks from a particular customer require extensive corrosion treatment and that the treatment requires a significant increase in man-hours. Since the corrosion has just been discovered an allowance for the work does not exist in the Depot Maintenance Work Requirement. Consequently, the costs associated with the abnormal corrosion treatment were not included in the stabilized rate. Is a process available that will allow Anniston to revise the rate? Theoretically the answer is yes. But, as a practical matter the answer is no. It is possible for Anniston to obtain a revised rate from DESCOM but it almost never happens. For unforeseen expenses DESCOM prefers the use of what is known as "pass throughs". A pass through is a supplemental appropriation obtained from Congress that DESCOM subdivides between the depots. This is also a rare occurrence. As a practical matter, Anniston is unable to revise the rates either upwards or downwards (as often happens

due to efficiencies associated with capital expenditures). (Monroe, 1985)

C. CHAPTER SUMMARY

This chapter has described DoD Instruction 7220.29-H, the Uniform Cost Accounting system and stabilized rates. The Uniform Cost Accounting system and the instruction deal with actual costs. As has been demonstrated, although a stabilized rate begins with actual costs, the adjusted rate that Anniston uses for billing may or may not be representative of the actual costs of repair. Since the purpose of stabilized rates is customer convenience, one should not expect them to mirror depot costs. Afterall, that was not their intention. In the next chapter Anniston's cost accumulation process is discussed and Anniston's actual costs are compared to those obtained from the Uniform Cost Accounting system (the instruction).

IV. COSTING DATA ACCUMULATION AND COMPARISON

The reporting requirements of DoD Instruction 7220.29-H were presented in the previous chapter. This chapter presents Anniston Army Depot's cost accumulation procedures and the procedures used to satisfy the reporting requirements of the instruction. Lastly, this chapter attempts to compare actual cost data obtained from Anniston with data generated by the reporting system as required by the instruction. Theoretically, one would expect to find similar cost data obtained from the two sources. Even if the numbers are not identical, it should be possible to explain the variances. As a reminder to the reader, stabilized rates are for billing purposes only, this chapter deals with "actual" costs.

A. COST ACCUMULATION

1. Direct and Indirect Labor

Direct and indirect labor hours are tracked daily by individual workcenters by means of a Labor and Production card. (The card itself is similar to the IBM punch card.) The cards contain the prepunched name, social security number, and workcenter of each employee. The workcenter supervisor manually fills out the labor and production cards listing the employee's time, JO/PCN, and the specific work performed using a four digit operations code. Unless the

employee spent the entire eight hours performing the same task on a single JO/PCN, more than one task and/or JO/PCN will be listed. Of course, not all of the employees' time is productive. For example, some time may be spent in training or some time may be idle (e.g., awaiting an inspector). Non-productive time is identified on the Labor and Production card and reported as such. Cards are also submitted for absent personnel (e.g., on vacation or sick). Each work center supervisor submits the Labor and Production cards to a production clerk who then collates them for the branch. The Labor and Production cards are then submitted to the Directorate for Information Management for processing. (Wood, 1985)

As indicated, labor costs are identified (as are all costs) with a JO/PCN which is in turn tied back to a Procurement Requisition Order Number (PRON) issued by the Army Materiel Command. Both the JO/PCN and the PRON usually contain more than one unit. For example, one PRON may contain numerous tanks. Consequently, no provisions are made for identifying the costs of an individual unit or a component of an individual unit (e.g., the engine of a tank undergoing overhaul).

A courier for the Information Management Directorate "makes the rounds" picking up the Labor and Production cards for all workcenters. The data are then entered into computer via keyboard to tape and batch processed. A validity check

is then run against the data (e.g., Are all eight hours of an employee's time identified? Are JO/PCNs valid?). The computer contains the personnel files of depot employees, their workcenter, and their wage rates. If a discrepancy arises the questionable Labor and Production card is returned to the branch administrative center for corrective action. The validated daily labor information is then posted to payroll, to the JO/PCN account, and to the Program Summary Report. The application of labor charges to the Program Summary Report is addressed below. (Stephens, 1985)

2. Material

As units (e.g., tanks, M-16s) are inducted into Anniston for repair, an automated check is performed against the Depot Maintenance Work Requirement to determine the necessary repair operations and the bill of materials. By identifying the repair operations, the requisite workcenters are also identified. This is done because material is issued against both a JO/PCN and a workcenter. As the Supply Directorate issues material to the Maintenance Directorate, the material charges and workcenter identification are posted to the authorizing JO/PCN. The prices charged to customers for material are those prices contained in the Army's master inventory pricing catalog. Consequently, price updates occur annually. At the same time the charges are posted to JO/PCNs, the computer posts identical charges to the PRONs associated with their respective JO/PCNs. These charges will

then be reflected in the Program Summary Report. Unused material is returned to the Supply Directorate and the appropriate accounts are credited. (Johnson, 1985)

3. Overhead

Although this subsection is labeled overhead, the application of overhead expenses to a JO/PCN and subsequent PRON is more involved than simply adding a rate for G&A per direct labor hour. The costing rate used by Anniston to recover overhead expenses is actually a standard cost and includes direct labor, indirect labor, direct and indirect overhead, base operations expense, G&A, electric and all other utilities. The only charges not included are direct material and direct other. (Johnson, 1985)

The Program and Budget Division of the Directorate for Resource Management prepares the standard costs by directorate for the depot (each directorate has its own expensing rate). The standard cost that is determined by the Program and Budget Division is considered valid for one year and is updated annually. When the computer posts labor and overhead costs to a JO/PCN it is done by multiplying the number of direct labor hours by the directorates' standard cost amount. For example, the Maintenance Directorate is currently using $31.00 as its standard cost. If a job took 10 direct labor hours and five indirect labor hours to complete, the costs charged against the JO/PCN would be 10 X $31.00 or $310.00. The only additional costs that could be charged to that

JO/PCN would be direct material and direct other. The variances that inevitably accompany a standard cost system are closed to the equivalent of an income statement at the end of the year. (Johnson, 1985)

B. COST REPORTING AS PER DOD INSTRUCTION 7220.29-H

Anniston, as do all Army depots, operates under the Standard Depot System. The system, instituted by DESCOM, is a comprehensive operations and financial techniques directive which includes, among other things, depot reporting requirements. The required reports are transmitted to DESCOM's computer via land-line from the Directorate for Information Management. The report germane to this discussion is the Program Summary Report which is a costing report that is submitted weekly. DESCOM, in turn, "picks off" the requisite numbers from the Program Status Reports quarterly and submits the yearly report to the Office of the Assistant Secretary of Defense as required by DoD Instruction 7220.29-H (Solenberger, 1985). An example of the Program Status Report is presented in Appendix C. Although the personnel of Anniston are aware of the Uniform Cost Accounting system, they have no knowledge of the reporting requirements of the instruction (Holmes, 1985). This author believes, however, that that observation is immaterial since Anniston's reporting requirements are defined by the Standard Depot System.

C. COMPARISON OF COST DATA OBTAINED FROM ANNISTON ARMY DEPOT WITH DOD INSTRUCTION 7220.29-H GENERATED DATA

It was the author's intention to compare four years' of data that were obtained from Anniston with the data obtained through the Uniform Cost Accounting system. Ostensibly, if the Uniform Cost Accounting system represents the financial activities of Anniston, then one would expect the numbers to be alike, or at least very similar. If the numbers are not identical, it should be possible to explain the variances. Unfortunately, that task proved much more difficult than anticipated. The 7220 data were obtained from Mr. Alex Sinaiko, Defense Manpower Data Center (DMDC). The data from Anniston were obtained from Mr. Marshall Crow, Production Controller. The question that was asked at both locations was, "What were the costs of the inspection and repair of the M60A3 at Anniston Army Depot in FYs 81-84?" A comparison of the data for fiscal years 81-84 is presented. The data from the two sources are presented in Tables IV-2 and IV-2 respectively. The data from the two sources are in different formats. Anniston's data are significant to two decimal places while DMDC's data have been rounded to thousands of dollars. As can be observed from the two tables, the methods of cost presentation are also different. Table IV-1 presents costs by cost category (e.g., labor, material, G&A) while Anniston presents the unit average of the repair in terms of man-hours and costs per unit. Even though the data are in different

TABLE IV-1. DATA OBTAINED FROM DMDC ($000)

FY	LABOR HOURS (000)	DIRECT LABOR	DIRECT MAT'L	OTHER DIRECT	PROD INDIRECT	G&A	TOTAL	CONVERS
81	7	87	20	-	91	12	210	174
82	13	159	82	4	177	14	436	233
83	146	1,835	214	40	2,252	162	4,503	4,130
84	174	2,328	48	353	3,147	225	6,101	5,035

TABLE IV-2. DATA OBTAINED FROM ANNISTON

FY	QTY	ACTUAL MANHOURS PER UNIT INS/REPAIR	ACTUAL MANHOURS PER UNIT CONVERSION	ACTUAL FUNDED COST/UNIT INS/REPAIR	ACTUAL FUNDED COST/UNIT CONVERSION	TOTAL (000)
81	43	1,990.14	569	79,353.48	11,126.48	3,891
82	317	2,011.81	390.84	110,104.03	11,056.66	38,408
83	350	2,345.62	390.84	124,812.58	12,729.83	48,140
84	316	2,068.81	513.5	125,115.94	15,930.98	44,571

formats, if the 7220 data are representative of the repairs undertaken by Anniston during the specified time period, then with minimal manipulation it should be possible to verify Anniston's figures using Table IV-1.

However, it is not possible to compare direct labor, direct material, other direct, production indirect and G&A expenses with the Anniston data since the formats are different. Regardless, it should be possible to compare actual labor hours, total cost and conversion cost since both tables list those categories. (Conversion cost refer to those costs specifically identified with converting a M60A1 into a M60A3.) Let us now look at those categories of costs.

The labor hours are listed directly in Table IV-1. However, to obtain labor hours from Table IV-2 it is necessary to multiply the quantity by the unit average for the inspection and repair process and also for the conversion process. For example, the 24,000 conversion labor hours for FY 81 was obtained by multiplying the per unit standard (569) times the quantity (43) and then rounding the result. The inspection/repair labor hours were figured similarly. The total labor hours were figured by summing conversion and inspection/repair labor hours. A comparison of those numbers is presented in Table IV-3. The data from Anniston were broken down into three categories in the hopes of finding some correlation between Anniston's data and DMDC's data. Ideally,

TABLE IV-3. COMPARISON OF LABOR HOURS (000)

FY	Data from DMDC Labor Hours	Data from Anniston Total	Insp/Repair	Conversion
81	7	110	86	24
82	13	762	638	124
83	146	958	821	137
84	174	816	654	162

one would expect to find similar numbers from the two sources. Unfortunately, this author is unable to find any correlation between the labor hours produced by Anniston and those produced by DMDC. With the information obtained during the course of this research effort, the author is not in a position to offer an explanation for the variance in labor hours. The answer may lie in the transformation process, which was briefly discussed earlier in this chapter, that occurs at DESCOM. Further research is recommended to find the answer to this question.

A similar comparison is presented on total costs and conversion costs in Table IV-4. Although the total column data are grossly mismatched, the dollar costs for conversion are similar in FY's 83 and 84. There is only $1,000 variance out of a total of $5 million between DMDC and Anniston for FY 84. For all practical purposes the numbers can be assumed to be the same since the $1,000 variance (.02%) can easily be

TABLE IV-4. COMPARISON OF COSTS (000)

FY	Data from DMDC Total	Data from DMDC Conversion	Data From Anniston Total	Data From Anniston Conversion
81	210	174	3,891	478
82	436	233	38,408	3,505
83	4,503	4,130	48,140	4,455
84	6,101	5,035	44,571	5,034

explained by rounding error. The variance for FY 83 is $325,000. Although in absolute terms the number is significant, in relative terms the 7.3% variance does not approach the level of the FY 81 or the FY 82 variances. The data for FY's 82 and 81 are quite different and the variances and an explanation for the variances has not been found. However, a trend in the data does appear to be evident. The more current data appears to be more closely correlated. Although this author cannot offer a definite explanation, a change in costs categorization and/or reporting procedures by Anniston, DESCOM, or the Office of the Assistant Secretary of Defense (Acquisition and Logistics) is a plausible explanation. A more mundane explanation may be that since the Uniform Cost Accounting system was installed in FY 77, it simply took more time to "work out the bugs". Further research is required to accurately explain the variances.

In summary, although ideally one would expect the numbers that were obtained through the DoD Instruction 7220.29-H reporting system to be the same, or at least similar, to the numbers obtained from Anniston if the system faithfully represents transpired events. Unfortunately, with some exception, the data obtained through the 7220 system bear little resemblance to the figures obtained from Anniston. Although it is quite possible that the data this author obtained from DMDC was not the answer to the question was asked. It is also evident that without both the Anniston and DMDC data, a decision maker would not be in a position to judge the validity of the 7220 data. Therefore, he could unknowingly make decisions based upon faulty data. The question remains, how valid are 7220 data?

V. CONCLUSIONS AND RECOMMENDATIONS

This chapter presents the conclusions of this thesis and recommendations for further study. In the previous chapters, three accounting systems have been presented: (1) Uniform Cost Accounting, (2) stabilized rates, and (3) actual costing. In this chapter the three systems are looked at from two different perspectives. First, conclusions are drawn individually and, second, the three systems are collectively viewed in light of a theoretical management control system. The last section of this chapter presents recommendations for further study.

A. CONCLUSIONS

The conclusions that are presented are for the three systems individually. The systems are presented in the following order: (1) stabilized rates, (2) Uniform Cost Accounting, and (3) actual costing.

1. Stabilized Rates

Stabilized rates have achieved their primary objective of enhancing customer convenience by holding depot billing rates constant throughout the fiscal year. However, they have done so at the expense of the Army Industrial Fund. The reason for this is that the rates are not available in sufficient time to allow the customers the use of the rates in the

preparation of their budgets. In fact, stabilized rate development and customer budget preparation parallel each other. As was discussed in chapter three, the stabilized rates are finally adjusted and available for use approximately three months before the start of a fiscal year. Although three months is sufficient for the depots to use the rates for billing, it is not possible for the customers to use the rates for budget preparation. By design, the Federal budgeting system is a "bottom up" process. In order for the stabilized rates to be of any use to the customers in their budget preparations, they would have to be available more than a year sooner.

Although the concept of stabilized rates and programmed gains/losses does not pose a conceptual problem for the comptroller's staff, this author found that the workers, middle, and senior level management dislike stabilized rates. The most prevalent objection is essentially one of morale. The sentiment that was expressed was if we are doing such a good job, why are we losing so much money. For example, for the first year that stabilized rates were in effect, Anniston had a programmed loss of $5.6 million for tank repair alone. It made no sense to the workers that, in spite of their best efforts, the depot was losing money. Since the depot commanders have limited control over their expenses and (given stabilized rates) essentially no control over their revenues, there is a very real concern that stabilized rates have

caused a reduction in management incentive (U. S. House of Representatives, 1978). (Aside from productivity enhancements and energy conservation measures the primary expense a Commander has jurisdiction over is temporary employees. His authorized manning level is established by Congress, the wage scales of the civil servants are established by the Federal government, and he must purchase his materials through the Army supply system.) While it is true that programmed losses will be recouped in future years, it is also true that the "true" cost of the repair has been shifted to a future appropriation and future customers.

The stabilized rates are subject to political manipulation as a result of the industrial vs. appropriated funds quagmire. Anniston originally submitted a per unit price of $101,692 for the overhaul of the M60A1 tank. However, subsequent to that submission Anniston was directed to install a new "track shoe" on all M60A1's (a scope of work change). Accordingly, Anniston revised its price to $113,650. Although this increase in materiel was acknowledged throughout the command structure, Anniston was not allowed to increase its stabilized rate. The Department of the Army's decision to hold the unit cost of the M60A1 to $91,144 in June of 1976 further compounded the situation. Because the $91,144 figure was incorporated into the Army's FY77 "plan" for major weapon items they would not approve the change. The reason for their refusal was that it was

necessary to retain the lower price in order to meet the production goals used in the Operations and Maintenance accounts budget planning. (U.S. House of Representatives, 1978) The result, the Department of the Army received the number of tanks they desired, Anniston lost $22,506 per tank, and the Industrial Fund absorbed the loss.

The rate stabilization process violates the very premise upon which the Industrial Funds were established. As established, the rates are almost totally inflexible.

> The concept of a Government-run revolving fund (the depots) is to provide a simulated private marketplace environment where the fund manager is allowed sufficient flexibility to exercise individual skill and initiative to satisfy customer demand while conducting operations efficiently on a break-even basis. The stabilization concept has robbed the installation manager of some of his initiative and clarity of goals. An activity manager can, and has found himself in the incongruous position of striving to meet production goals, cognizant all the while that each unit being produced is being sold at a loss. (U.S. House of Representatives, 1978)

As was stated in Chapter III, an objective of stabilized rates is to aid customers in the preparation of their budgets. However, stabilized rate formulation and budget preparation actually parallel each other. Although stabilized rates do shield the customer from price changes during a year they are not available for budget formulation. This results in budget abberations like the Anniston M60A1 example. Although it would be possible to prepare the rates sooner, this author does not believe the depots would willingly agree. As the situation now exits, the depots begin

rate development almost two years before the fiscal year and because of the lead time only about 50 percent of the workload is identified. As was demonstrated in Chapter III, workload determination is a significant factor in determining stabilized rates. Increasing rate development lead time by another year or more would make workload projection even more tenuous. Besides, the further into the future you try to predict, the more uncertainties you must deal with and the less confidence you can place on the accuracy of your figures.

As a summary thought on stabilized rates, this author has been told that the depots would prefer to be rid of stabilized rates altogether, or at least operate with a system incorporating a "flexible" stabilized rate that could be updated during the fiscal year. This would allow the depots to return to a breakeven mode of operation for the desired management reasons already mentioned. A third alternative would be to adopt a system of rates based upon last year's costs. These rates could be compiled quickly and given to the customers for their budget preparations. The Industrial Fund could continue to act as a financial shock absorber as it does now.

2. Uniform Cost Accounting

The DoD Instruction 7220.29-H and the Uniform Cost Accounting system have provided a workable vehicle for the

achievement of their objectives. Specifically, the instruction has: (1) established a double-entry accrual based accounting system, (2) established standards, policies and definitions for uniform cost accounting, (3) identified cost components by categories, and (4) established reporting requirements. Each of the objectives stand alone on their own merit, of that, there is no argument. However, the reports that are supported by the reporting requirements are of concern.

Chapter IV went into detail addressing the validity of 7220 data. The conclusion that was reached was that although two years' of cost data for one category of expenses may be valid; there was no doubt that the other categories of costs were useless for accurate decision making purposes. Possible explanations for the variances and recommendations for further study were presented at the end of chapter four. The remainder of the discussion on the Uniform Cost Accounting system centers on the following concept--even if 7220 numbers are faithfully representative of the financial activities of the depots, what limitations must be observed when interpreting and comparing the reports?

As discussed in Chapter III, the reporting system described by DoD Instruction 7220.29-H generates a variety of financial reports. Accounting theory points out that the decision makers using the reports desire a comparative analysis (Spiller and Gosman, 1984). As stated in Chapter III,

an objective of the instruction states that the reports will assist in productivity measurement, the development of performance and cost standards and aid in determining areas for management emphasis. However, it is very easy to misinterpret the reports and arrive at an erroneous conclusion. For example, to gauge the financial health of a depot one would look at year-end operating results (the NOR). Before stabilized rates came into being a year-end NOR of zero was ideal. Now, however, it is not obvious whether a five million dollar loss is good or bad. Perhaps the depot was programmed for a six million dollar loss and due to productivity enhancements undertaken by management the depot saved one million dollars.

The comparison issue also affects decisions between different depots. Intuitively, one would say that the depot that made ten million dollars was more efficient than the depot that made two million dollars. But as we now know, that may not be true. For example, the NOR factor is applied on the basis of direct labor hours; consequently, if the NOR is negative a depot would show increasing losses with increasing direct labor usage.

Another objective of the instruction states that the reports ". . . will provide a means of identifying maintenance capability, duplication of capacity and indicate both actual and potential areas for interservice support of maintenance workload". An obvious example of the use of the

reports for this objective is to consolidate maintenance repair at one or two depots. However, these decisions should not be made on the basis of reports generated by the instruction because:

(1) The labor component of the stabilized rates is by far the largest single component and the labor rates paid by the depots throughout the country are regionally determined by the Federal Government and vary significantly. Efficiency usually means that the same amount of work was accomplished at reduced cost. But what of the depot with a low wage scale whose man-hour standards are higher than the other depots. Does that mean that the low wage scale depot is efficient because it it can repair a piece of equipment less expensively than the other depots? This author thinks not. If, however, the low wage scale depot also reduced its' man-hour standards through better management, then yes, the low wage scale depot would then be more efficient.

(2) For strategic military purposes it is desireable to possess duplicate repair facilities for protection against such contingencies as bombings and terrorists.

(3) Excess capacity is militarily desireable to provide for surge capacity in the event of war.

(4) The reports do not show how many of a specific item have been previously repaired by a depot. For example, do the costs shown reflect two pieces of equipment a year or two hundred (e.g., the learning curve phenomenom).

3. Actual Costing

Drawing conclusions from the material presented in Chapter IV on Anniston's cost accumulation process, this author believes that Anniston has an effective actual costing system. In particular, labor management, labor expense accounting procedures, and the automated material costing procedures appear to be sound. Since Anniston uses standard

costs to post actual costs on the Program Summary Report (from which 7220 data is obtained), it would be interesting to compare end of the year variances to determine the effectiveness of using a single standard cost throughout the year.

4. Uniform Cost Accounting, Stabilized Rates, and Actual Costing Compared

The three systems have been presented as though they are three distinct entities. And in fact they are. Uniform Cost Accounting primarily supports the Department of Defense and Congressional decision-makers. Stabilized rates are solely for the convenience of the customers and the actual costing system is exclusively Anniston's. However, the three systems are tied together by a common thread. At one point in time, the three are actually one in the same, at least theoretically and all three are driven by Anniston's actual cost system. This will be explained by comparing the actual cost system against both stabilized rates and the Uniform Cost Accounting system.

As you will recall from Chapter III, the origin of stabilized rates is Anniston's cost application rates. The cost application rates are a product of Anniston's actual cost system. When the unadjusted stabilized rate is determined at Anniston, it is the current actual cost. DESCOM adjusts the stabilized rates for inflation, productivity enhancements, the Asset Capitalization Program and NOR. The NOR factor has been shown to vary from a few dollars negative

to the current eight dollars positive. The adjusted stabilized rates no longer reflect Anniston's actual costs, although at one point in time they did. So, although the components of stabilized rates and Anniston's actual cost systems are similar, one would not expect stabilized rates to equal Anniston's actual costs because of the NOR factor.

A similar phenomenon can be observed when comparing Uniform Cost Accounting (specifically the reports generated by the system) and Anniston's actual cost system. All of the reports that are derived from the 7220 databank are obtained through DESCOM via the Program Summary Report. As was discussed in Chapter IV, those costs are standard costs. The standards are determined by Anniston's financial personnel and the source of the standards is Anniston's actual cost system. The same cost application rates that are used to determine the unadjusted stabilized rates are used to determine the standard cost used on the Program Summary Report. Theoretically, then, one would expect cost category totals from the two systems to concur since they have the same source. Unfortunately, as Chapter IV explained, that is NOT the case.

B. UNIFORM COST ACCOUNTING, STABILIZED RATES AND THE ACTUAL COST SYSTEM FROM A MANAGEMENT CONTROL SYSTEM PERSPECTIVE

Implicit in the previous discussion is that the three accounting systems are part of the mechanism by which the organization ensures that resources are used effectively and

efficiently; that is part of the management control system. The management control activities within an organization generally recur in a regular cycle and can be described by these four phases: (1) programming, (2) budgeting, (3) operating and measurement, and (4) reporting and analysis (Anthony and Dearden, 1980). This discussion will continue by briefly describing each phase and disussing the implications for each of the three systems.

1. Programming

Programming is the process of deciding on the various programs that an organization will undertake and the approximate amount of resources that are to be allocated to each program. (Anthony and Dearden, 1980). Neither stabilized rates nor the actual cost system play a role in this process. This phase is often referred to as strategic planning and that role is outside the scope of the depot commander. The reports generated by the Uniform Cost Accounting system could be used in this phase (e.g., DoD and Congressional decision-makers).

2. Budgeting

A budget is a plan for an organization that is usually expressed in monetary terms that covers a specific time period.

> In the budgeting process each program is translated into terms that correspond to the sphere of responsibility of each manager who is charged with executing the program or some part of it. Thus, although the plans are originally

made in terms of individual programs, in the budgeting process the plans are translated into terms of responsibility centers. (Anthony and Dearden, 1980)

Two of the systems play a role in this phase, stabilized rates and the actual cost system.

When Anniston inducts a piece of equipment on a fixed price contract, the authorized manhours and the authorized dollar amount is specified. The limitations (authorized man-hours and dollars) in the contract are the guidelines for the depot managers and the limitations are themselves a product of stabilized rates.

The actual cost system plays an integral role in the budgeting process. As was discussed in Chapter III, the internal operating budget is the key financial tool used for the budgeting and financial management of the depots. The source of the internal operating budget is the actual cost system.

3. Operating and Measurement

During the period of actual operations, records are kept of resources actually consumed (i.e., costs) and of revenues actually earned. These records are structured so that cost and revenue data are classified both by programs and by responsibility centers. (Anthony and Dearden, 1980)

All three systems perform a function in this phase.

The stabilized rates determine the amount of revenues that a depot will receive for a fixed price order or a fixed rate per hour order. Although the depots do perform some reimburseable work, the bulk of a depot's revenues is determined by stabilized rates.

The actual cost system performs the same function in this phase through two roles: (1) the Program Summary Report, and (2) the internal operating budget. The managers of the Maintenance Directorate use the Program Summary Report to guide their actions and to gauge their performance. The personnel in the Directorate for Resource Management, on the other hand, use the internal operating budget for the same purposes.

4. Reporting and Analysis

> The management control system serves as a communication device. The information that is communicated consists of both accounting and nonaccounting data, and of both data generated within the organization and data about what is happening in the environment outside the organization. . . . Based on these formal reports, and also on information received through informal communication channels, managers may decide to change the plan as set forth in the budget, and this leads to a new planning process. (Anthony and Dearden, 1980)

The two systems that function in this phase are the Uniform Cost Accounting system and the actual cost system. From a perspective external to the depots, it would appear that all reports pertaining to depot operations have the 7220 databank as their origin. That is true. However, as has been discussed, the source of the 7220 data is the actual cost system. The internal operating budget performs this function in an internal and external role. The internal role has already been described. The external function is served when the monthly analysis of the variances (mentioned in Chapter III

and Appendix B) contained within the internal operating budget are submitted to DESCOM by the depot commander.

5. Summary

It is one of the intents of a management control system to help managers use resources efficiently and effectively. It has been shown that stabilized rates play no role in that regard. Although both the Uniform Cost Accounting system and the actual cost system do aid managers in this regard. However, since the Uniform Cost Accounting system relies upon the actual cost system for its information, this author concludes that the actual cost system is the primary system that functions in the management control system milieu.

C. RECOMMENDATIONS FOR FURTHER STUDY

The following are suggestions for additional research to enhance the scope of this report:

(1)..Examine the feasibility of altering the stabilized rate process to better accomodate the needs of both the depots and the customers (e.g., "flexible rates").

(2)..What impact has stabilized rates had upon the solvency of the Army Industrial Fund corpus? Is it a problem?

(3)..Using source documents, examine depot level cost data by weapon system and compare that to DoD Instruction 7220.29-H generated data for the same weapon system. Are they the same? If not, why are they different?

APPENDIX A

DoD INSTRUCTION 7220.29-H MAGNETIC TAPE LAYOUT

Field No.	Description of Data	Tape Positions
	Record Identification	
1	Record Type "F"	1
2	Quarter Code	2
3	Fiscal Year	3-4
	Identification of Facility	
4	Program Element	5-10
5	Facility Name or Code	11-24
	a. Organic Activity Name	11-24
	b. Contractor Activity Code	11-22
6	Inside or Outside U. S. Code	25
7	Owner/Operator Code	26
8	Reporting Facility Code	27-31
	Identification of Item/Service and Customer	
9	Item Identification Number	32-44
10	Item Nomenclature	45-64
11	Standard Inventory Price	65-74
12	Weapon or Support System Code	75-78
13	Work Breakdown Structure Code	79-81
14	Work Performance Category	82-84
15	Customer Code	85-86

16	Unused	
17	Direct Civilian Labor (Production) Cost	87-94
18	Direct Civilian Labor (Production) Hours	95-102
19	Direct Civilian Labor (Other) Cost	103-110
20	Direct Civilian Labor (Other) Hours	111-118
21	Direct Military Labor (Production) Cost	119-126
22	Direct Military Labor (Production) Hours	127-134
23	Direct Military Labor (Other) Cost	135-142
24	Direct Military Labor (Other) Hours	143-150
25	Direct Material Cost - Funded	151-158
26	Direct Material Cost - Unfunded (Investment Items at Full Price)	159-166
27	Direct Material Cost - Unfunded (Exchanges)	167-174
28	Direct Material Cost - Unfunded (Modification Kits)	175-182
29	Direct Material Cost - Unfunded (Expense)	183-190
30	Other Direct Cost - Funded	191-198
31	Other Direct Cost - Unfunded	199-206
32	Operations Overhead - Funded	207-214
33	Operations Overhead - Unfunded	215-222
34	General and Administrative Expense - Funded	223-230
35	General and Administrative Expense - Unfunded	231-238
36	Contract/Interservice/Non-Depot Maintenance Activity Cost	239-246
37	Government-Furnished Material (Investment Items at Full Price)	247-254

38	Government-Furnished Material (Exchanges)	255-262
39	Government-Furnished Material (Modification Kits)	263-270
40	Government-Furnished Material (Expense)	271-278
41	Government-Furnished Services - Funded	279-286
42	Government-Furnished Services - Unfunded	287-294
43	Maintenance Support Costs Organic - Funded	295-302
44	Maintenance Support Costs Organic - Unfunded	303-310
	Production Data	
45	Total Production Quantity Completed	311-318
46	Unused	
47	Quantity of Completed Items Inducted During Reporting Year	327-334
48	Quantity of Completed Items Inducted During Year Preceding Reporting Year	335-342
49	Quantity of Completed Items Inducted During All Other Previous Years	343-350
50	Work Days in Process	351-354
	Leave Blank	355-360

FORMAT B

MONTHLY INDUSTRIAL FUND
FINANCIAL STATUS REPORT

RCS CSCOA-23(R-2)

DATE RUN: 06/17/85

(THOUSANDS OF DOLLARS)

FY 1985

INDUSTRIAL FUND: ARMY
ACTIVITY GROUP/INSTALLATION: ANNISTON PART I

AS OF MAY 1985

ACCOUNTS (1)	APPROVED ANNUAL PROGRAM (2)	PLAN FY TO DATE (3)	ACTUAL FY TO DATE (4)	TARGET DEVIATION AMOUNT (5)	TARGET DEVIATION % (5)	CURRENT ESTIMATE ANNUAL PROGRAM (6)
ORDERS RECEIVED	369294	268902	286404	17502	6.5	330265
EARNED REVENUE	366784	214652	221255	6603	3.1	325266
UNBILLED BALANCE	139570	191310	202209	10899	5.7	125645
COST OF GOODS AND SERVICES PRODUCED	339581	203760	196339	-7421	-3.6	312982
1. DIRECT PRODUCTIION COSTS	223671	127111	125152	-1959	-1.5	203528
A. SALARIES AND WAGES	94700	57194	56312	-882	-1.5	86301
B. OTHER	128971	69917	68840	-1077	-1.5	117227
2. PRODUCTION OVERHEAD COSTS	103515	68327	63477	-4850	-7.1	97324
A. SALARIES AND WAGES	64651	42256	43192	936	2.2	64945
B. OTHER	38864	26071	20285	-5786	-22.2	32379
3. GENERAL ADMINISTRATIVE COSTS	12395	8322	7710	-612	-7.4	12130
A. SALARIES AND WAGES	8503	5681	5357	-324	-5.7	7858
B. OTHER	3892	2641	2353	-288	-10.9	4272
CHANGE IN WORK IN PROGRESS		-1966	-4908	-2942	-149.6	
COST OF GOODS AND SERVICES SOLD	339581	201794	191431	-10363	-5.1	312982
NET OPERATING RESULTS	27203	12858	29824	16966	131.9	12284
COLLECTIONS	364219	217847	221764	3917	1.8	329265
DISBURSEMENTS	346012	213671	197811	-15860	-7.4	311025
NET EXPENDITURES	-18207	-4176	-23953	-19777	-473.6	-18240
CASH TRANSFERS TO			3707	3707		
CASH TRANSFERS FROM			24742	24742		

APPENDIX B

EXCERPTS FROM
ANNISTON MONTHLY BUDGET VARIANCE ANALYSIS

ANNISTON ARMY DEPOT
FORMAT B
FINANCIAL STATUS REPORT NARRATIVE

31 MAY 1985

PART I - DEVIATION IN EXCESS OF 5% TO FORECAST

LINE ITEM	$ DEVIATION	% DEVIATION
ORDERS RECEIVED	17,502	6.5

EXPLANATION: VARIANCE IS THE RESULT OF HQDESCOM ACCELERATION OF OBLICATIONS AGAINST PLAN.

LINE ITEM	$ DEVIATION	% DEVIATION
REVENUE	6,603	3.1

EXPLANATION: FAVORABLE VARIANCE HAS OCCURRED MAINLY IN THE SUPPLY AND MAINTENANCE MISSIONS AT ANNISTON ARMY DEPOT AND IS WITHIN TOLERANCE.

LINE ITEM	$ DEVIATION	% DEVIATION
COST OF GOODS PRODUCED	(7,421)	(3.6)

EXPLANATION: VARIANCE IS WITHIN TOLERANCE BUT IS DISCUSSED BELOW AT DETAIL LEVELS.

LINE ITEM	$ DEVIATION	% DEVIATION
DIRECT PRODUCTION COSTS	(1,959)	(1.5)

EXPLANATION: VARIANCE IS WITHIN TOLERANCE.

LINE ITEM	$ DEVIATION	% DEVIATION
SALARIES & WAGES	(882)	(1.5)

EXPLANATION: VARIANCE IS WITHIN TOLERANCE.

LINE ITEM	$ DEVIATION	% DEVIATION
OTHER	(1,077)	(1.5)

EXPLANATION: VARIANCE IS WITHIN TOLERANCE.

LINE ITEM	$ DEVIATION	% DEVIATION
PRODUCTION OVERHEAD COSTS	(4,850)	(7.1)

EXPLANATION: FAVORABLE VARIANCE IS EXPLAINED BELOW. VARIANCE SHORTFALL OF $5,057 IS AT ANNISTON.

LINE ITEM	$ DEVIATION	% DEVIATION
SALARIES & WAGES	936	2.2

EXPLANATION: VARIANCE IS WITHIN TOLERANCE. OVERAGE OF $299 IS AT ANAD AND $637 IS AT LBDA.

LINE ITEM	$ DEVIATION	% DEVIATION
OTHER	(5,786)	(22.2)

EXPLANATION: FAVORABLE VARIANCE IS MAINLY THE RESULT OF OVERHEAD SHORTFALL:

MAINTENANCE	($4,421)	MATERIALS AND SUPPLIES
BASE OPRS	(585)	CONTRACTS AND UTILITIES
BASE OPRS	(87)	MATERIALS AND SUPPLIES
SUPPLY	(312)	MATERIALS, SUPPLIES, AND OTHER
LBDA, ALL MISSIONS	(440)	MATERIALS, SUPPLIES, AND OTHER

SHORTFALL IN MATERIALS AND SUPPLIES HAS OCCURRED FOR THE FOLLOWING REASONS: (1) PLAN INCLUDED OVERHEAD SUPPLIES FOR APPROX 78 SGT YORK DIVAD VEHICLES THAT HAVE BEEN DECREASED FOR A TOTAL PROGRAM OF 117 AND SCOPE OF WORK CHANGE ON 35 OF 100 M48A5 PAKISTAN VEHICLES WHICH WERE IN A SUPPLY SERVICEABLE CONDITION WHICH REQUIRED ONLY MINOR REPAIR AND MINOR OVERHEAD SUPPLIES. (2) AN INFLATION FACTOR OF 5% WAS INCLUDED FOR FY85. THE OVERALL AVERAGE PROCE INCREASE FROM STOCK FUND EFFECTIVE 1 OCT WAS ONLY 1.5%. THIS IS APPROX $508 SHORTFALL. (3) A STUDY TO OPTIMIZE PARTS/SUPPLY USAGE (DSTOP) INITIATIVES HAS IMPROVED INCREMENTAL TURN IN'S TO THE EXTENT THAT CHARGES TO CLOSED JOBS WHICH ARE CHARGED TO OVERHEAD HAVE DECREASED BY $627 TO THAT PROGRAMMED. (4) DUE TO PDO SHIPMENT FREEZE, $1.5 MIL IS ON HOLD FOR SHIPMENT TO PDO. THE MAJORITY WILL BE CHARGEABLE TO MAINTENANCE OVERHEAD WHEN FREEZE IS LIFTED AND SLIPPAGE WILL BE RECOUPED. (5) SLIPPAGE IN SUPPLY IS ALSO ATTRIBUTED TO THE REDUCTION OF PACKING MATERIAL FOR TANK CONVERSION KITJS. (6) VARIANCE OF $585 IN BASE OPRS IS SLIPPAGE FOR UTILITIES AND CONTRACTS THAT ARE PROGRAMMED TO BE RECOUPED.

LINE ITEM	$ DEVIATION	% DEVIATION
GENERAL ADMIN COSTS	(612)	(7.4)

EXPLANATION: SEE THE FOLLOWING:

LINE ITEM	$ DEVIATION	% DEVIATION
SALARIES & WAGES	(324)	(5.7)

EXPLANATION: SLIPPAGE OF $201 IS THE RESULT OF ADP AT LBDA PROGRAMMED AS GAE IN THE MARK. A CHANGE IN THE STANDARD DEPOT SYSTEM ALLOWED ADP COST TO BE DISTRIBUTED AS BOCIE AND IS OFFSET IN PRODUCTION OVERHEAD SALARIES ABOVE. THIS VARIANCE WILL NOT BE RECOUPED AND WILL CONTINUE TO GROW. SLIPPAGE OF APPROX $123 IS AT LBDA WHERE PEOPLE WERE PROGRAMMED TO WORK IN GAE BUT WERE REQUIRED ON HIGHER PRIORITY WORK IN THE BOCIE AREA.

LINE ITEM	$ DEVIATION	% DEVIATION
OTHER	(288)	(10.9)

EXPLANATION: THE VARIANCE IS MAINLY THE RESULT OF LBDA ADP CO ST PROGRAMMED IN MARK AS GAE INSTEAD OF BOCIE AND (RPMA) DEPRECIATION PROGRAMMED AS GAE WITH COST BEING INCURRED AS BOCIE. THIS IS THE RESULT OF THE SAME SDS CHANGE MENTIONED ABOVE FOR ADP.

	PLAN	ACTUAL
OVERHEAD LABOR VERSUS DIRECT LABOR RATES		
DIRECT SALARIES AND WAGES	57,194	56,312
OVERHEAD SALARIES AND WAGES	47,937	48,549
PRODUCTION	42,256	43,192
GEN ADM	5,681	5,357
OVERHEAD LABOR RATIO TO DIRECT	83.8	86.2

ACTUAL OVERHEAD RATIO IS 2.4 OR 2.9% MORE THAN PLAN AND WITHIN TOLERANCE. RATIO IS MORE AS THE RESULT OF DIRECT LABOR SHORTFALL TO PLAN OF $882 OR 1.5% AND OVERHEAD EXCEEDING PLAN BY $612 OR 1.3%.

LINE ITEM	$ DEVIATION	% DEVIATION
NET OPERATING RESULTS	16,966	113.9

EXPLANATION: FAVORABLE VARIANCE IS MAINLY IN THE FOLLOWING AREAS:
(1) A PROFIT OF $2,939 HAS OCCURRED IN THE INVENTORY ACCOUNTS. A SMALL PROFIT OF $259 WAS ESTIMATED RESULTING IN A PROFIT VARIANCE OF $2,680. PURCHASES AT STANDARD EXCEEDED PURCHASES AT COST BY $1,298. THE CUSTOMER RETURNS W/O CREDIT EXCEEDED THE DISPOSITION OF MATERIEL W/O CREDIT MAINLY DUE TO THE FREEZE ON TRFS TO PDO. POTENTIAL EXCESSES ON HOLD TO BE SHIPPED TO PDO IS $1,472.
(2) PROFIT VARIANCE OF $3,142 HAS OCCURRED IN OVERHEAD. INCURRED OVERHEAD (PRODUCTION PLUS GEN ADM) IS $5,462 LESS THAN PLANNED AS REFLECTED ABOVE. APPLIED OVERHEAD IS LESS THAN PROGRAM AS THE RESULT OF SHORTFALL IN HOURS FOR RATE APPLICATION. OVERHEAD SLIPPAGE AND PROFIT VARIANCE OF $1.5

MIL WILL BE RECOUPED WHEN FREEZE ON SHIPMENTS TO PDO IS LIFTED. THERE IS $1.5 MIL ON HOLD FOR SHIPMENT TO PDO. OVERHEAD RATES HAVE BEEN DECREASED TWICE AND WILL BE DECREASED AGAIN ON 1 JUL 85 BUT DECREASE IN OVERHEAD RATES WILL GENERATE A PROFIT IN FIXED PRICES AND RATES.

(3) THE REMAINING PROFIT VARIANCE OF $11,144 HAS OCCURRED MAINLY IN FIXED PRICE VARIANCES AT ANNISTON ARMY DEPOT. A PROFIT OF $1,871 AND $1,743 HAS OCCURRED IN PE 721111 AMMO AND OTHER SUPPLIES RESPECTIVELY. A COMBINATION OF FACTORS HAVE CONTRIBUTED TO THE PROFIT: (A) PROFIT IN AMMO CHEMICAL WORKLOAD HAS DEVELOPED RESULTING FROM INCREASED CHEMICAL WORKLOAD WHICH INCREASED THE DIRECT MANHOUR BASE. FIXED RATE WAS BASED ON A SMALL KNOWN MANHOUR BASE WHICH HAS DOUBLED. (B) AMMO SHIPPING AND RECEIVING ACTUAL WORKLOAD HAS EXCEEDED FORECAST BY 5.9 AND 11.7 TONS RESPECTIVELY AT 31 MAY. (C) PROFIT IN BOTH AMMO AND OTHER SUPPLIES HAS ACCURED DUE TO DECREASED SUPPLIES AND MATERIEL EXPENSE TO THAT INCLUDED IN FIXED PRICES AND RATES. INFLATION DID NOT DEVELOP AND MATERIEL REQUIRED TO PACK TANK CONVERSION KITS DECREASED.

BALANCE OF THE PROFIT VARIANCE HAS OCCURRED IN MAINTENANCE DUE TO FOLLOWING: (A) PARTS AND MATERIAL INFLATION HAS NOT OCCURRED AS PROVIDED IN FIXED PRICES, (B) INCREASED AWARENESS AND CONCERTED EFFORTS BY MANAGEMENT TO REDUCE COSTS, (C) OPTIMIZE PARTS/SUPPLY USAGE AND, (4) IMPLEMENTATION OF RECLAMATION INITIATIVES AND PROCEDURES FOR CERTAIN ITEMS. DETAIL ANALYSIS FOR SELECTED MAINTENANCE PRONS FOLLOW:

PRON	NOMENCLATURE	FY85 PROFIT
EH4CE247	ENGINE 1790-2C	$1,297
EH5CE247	ENGINE 1790-2C	1,629
TOTAL		$3,828

MAJOR PORTION OF PROFIT, APPROX 77%, IS THE RESULT OF IMPROVED PARTS MANAGEMENT THROUGH IMPLEMENTATION OF DSTOPS STUDY WHICH EDUCATED PLANNERS AND PARTS ATTENDANTS THROUGH CLASSROOM TRAINING AND INCREASED AWARENESS AND EFFORTS TO REDUCE COSTS. IN ADDITION, PARTS ARE LESS EXPENSIVE BY INDIVIDUAL FSN THAN BY PROCUREMENT OF THE MORE EXPENSIVE MITCHELL KIT. AGREEMENT HAS BEEN AMENDED TO PROCURE ONLY 1 PER MONTH IN LIEU OF 2 AND PROCUREMENT IS NOT RETROACTIVE IF KITS ARE NOT AVAILABLE. APPROX 5% IS THE RESULT OF INITIATIVES TO SCRUB MANHOUR STANDARD (FROM 312.4 TO 290.7). THE FY85 PROGRAM IS IN PROCESS OF RENEGOTIATION DUE TO ABOVE INITIATIVES BUT PROFIT WILL STILL BE REALIZED FROM THE FY84 PROGRAMS TO COMPLETION. APPROX $672 PROFIT IS FOR NOR SURCHARGE.

PRON		
EH5CW922	TANK COMBAT, M60A1/A3	$4,073

THIS IS CAT II FIXED PRICE PROGRAM AND IS SUBJECT TO NEGOTIATION AT 50% COMPLETION. DEGREASE IN UNIT PRICE WILL BE NEGOTIATED. PROFIT IS FROM LABOR, MATERIAL AND NOR SURCHARGE. A MOA BETWEEN ANAD MAINTENANCE AND QUALITY ESTABLISHED A NEW ACCEPTANCE PROCEDURE AFFECTING ENGINES AND TRANSMISSIONS FROM INSPECT AND REPAIR (EFF 15 AUG 84). PROCEDURE RESULTED IN TESTING THE POWER PACK AS A UNIT RATHER THAN SEPARATE AND REDUCED THE OVERHAUL FACTOR FOR ENGINES FROM INSPECT AND REPAIR BY APPROX 8%. NOR SURCHARGE PROFIT IS $2,039. PROFIT IN PARTS IS ALSO RESULT OF IMPROVED PARTS MANAGEMENT AS OUTLINED ABOVE FOR ENGINE PRONS.

PRON		
M15ED101	M60 MACHINE GUN	$1,584

PROFIT IS MAINLY IN PARTS. THE MATERIAL COST OF $921.88 PER UNIT WAS AN ESTIMATE BASED UPON REPLACEMENT OF RECEIVERS, WITHOUT ANY HISTORY TO BASE REPLACEMENT AND USAGE OF OTHER REPAIR PARTS. SIX MONTHS OF EXPERIENCE INDICATES THAT UNIT MATERRIAL COSTS SHOULD BE $705.54. BASED UPON EXPERIENCE GAINED THROUGH JAN 85, AN ESTIMATE OF $680.54 WAS SUBMITTED FOR FY87 FIXED/PRICE. PROFIT OF APPROX $89 IS NOR SURCHARGE.

LINE ITEM	$ DEVIATION	% DEVIATION
COLLECTIONS	3,917	1.8

EXPLANATION: VARIANCE IS WITHIN TOLERANCE. SEE CASE ANALYSIS, PART II, BELOW FOR DETAIL ANALYSIS.

LINE ITEM	$ DEVIATION	% DEVIATION
DISBURSEMENTS	(15,860)	(7.4)

EXPLANATION: VARIANCE IS MAINLY DUE TO SHORTFALL IN COSTS, INVENTORY AND CAPITALIZED EQUIPMENT. COST VARIANCES ARE DISCUSSED ABOVE. INVENTORY IS $3,406 LESS THAN SEP INITIAL PLAN AS THE RESULT OF IMPROVED PARTS MANAGEMENT BY PURIFYING REQUIREMENTS AND CHANGES IN MAINTENANCE WORKLOAD MIX. THE REMAINING VARIANCE IS THE RESULT OF ACTUAL ACCOUNTS PAYABLE AND ACCRUED EXPENSES EXCEEDING THE PLAN BY $1,098 AND $2,061 RESPECTIVELY. SEE CASH ANALYSIS, PART II FOR DETAIL ANALYSIS.

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AMC-PRON / STK-ITEM-NO	MPE ITEM-NAME / PCN	M-IIC	O/T IND	WAC / NARR CD	PROJ CONT / CUST CD	MAINT P-QTY / PROP P-QTY	MAINT A-QTY / PROP A-QTY	U-MAINT FD-CST / N-U-MAINT FD-CST	MAINT FD-AUTH / CST-INC TD	IND QTY / QTY COMP-DT	QTY SCH-MO / QTY COMP-MO	EQ-PROD QTY / QTY SCRAP	TOTAL M-MHR / MHR EXP-DT	WAI / U-MAINT M-HRS	RESP TO-ACT / NEG F-UP	FD B/O VAL / F-P IND
0145447001D1H3 N	ADAPTER DETECTOR			A1	K2	3	3	15855.53	47567	3		.00	668	M		
4935004555939	M01NEW 8		N	Z	01			.00	30324	3			669	226.00		F
0145448700O1H3 N	CONDITIONER SIGNAL			A1	K2	2	2	6273.17	12546	2		.00	252	M		
4935001170325	M01GYX 8		N	Z	01			.00	8697	2			252	125.00		F
0145461603O1H3 N	TRUNNION ASSY			A1	R2	10	10	983.12	9831	10		.00	200	M		
1440004559408	M01HCE 8		N	Z	01			.00	10131	10			200	20.00		F
0145543401D1H3 N	PANEL CONTROL			A1	R2	31	31	1372.94	42561	32		.00	690	M		
6130010189791	M01T9T 8		N	Z	01			.00	27755	31		1	690	20.00		F
0145543502O1H3 N	PANEL CONTROL			A1	R2	29	29	1256.10	36427	31		.00	664	M		
6130010189790	M01T9S 8		N	Z	01			.00	24748	29		2	664	20.00		F
0145562903D1H3 N	CHARGER BATTERY			10	N2	40	40	849.60	33984	47		.00	800	M		
6130010260258	M01GMR 9		O N	Z	01			.00	30239	40		7	800	20.00		F
0145564102O1H3 N	CIRCUIT CARD			A1	R2	76	76	184.96	12537	77		.00	304	M		
6920010069803	M01GLU 8		N	Z	01			.00	9762	76		1	304	4.00		F
0145638404O1H3 N	CONTROL SIGNAL			10	N2	558	558	708.05	395092	585		.00	8670	M		
1430010403750	M01JMN 9		Y N	Z	01			.00	310708	558		27	8871	15.00		F
0145741004O1H3 N	IR PROBE			A1	K2	3	3	1168.17	3505	3		.00	86	M		
4935004418171	M01MGP 8		N	Z	01			.00	2765	3			86	28.00		F
0145756003O1H3 N	DAMPER AZIMUTH			A1	R2	4	4	318.28	1273	8		.00	25	M		
1430006268322	M01LL7 8		N	Z	01			.00	811	4		4	25	6.63		F
0145901203O1H3 N	CKT CARD ASSY			10	W2	17	17	349.13	5935	18		.00	136	M		
1430010631151	M01BNQ 9		N	Z	01			.00	4399	17		1	136	8.00		F

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AMC-PRON / STK-ITEM-NO	MPE INO	ITEM-NAME / PCN	M-IIC	O/T INO	NARR CD	WAC / CUST CD	PROJ CONT / PROP P-QTY	MAINT P-QTY / PROP A-QTY	MAINT A-QTY / N-U-MAINT FD-CST	U-MAINT FD-CST / CST-INC TD	MAINT FD-AUTH / QTY COMP-DT	IND QTY / QTY COMP-MO	QTY SCH-MO / QTY SCRAP	EQ-PROD QTY / MHR EXP-DT	TOTAL M-MHR / U-MAINT M-HRS	WAI / NEG F-UP	RESP TO-ACT / F-P IND	FD B/O VAL
014414100001H3	N	POWER SUPPLY			A1	R2	1	1	1582.13	1582			.00	35	M			
5920004539204		M03WGZ	000	N		48			.00						35.50		R	
014414160301H3	N	SIGHT OPTICAL			A1	R2	2	2	6713.70	13427			.00	72	M			
5440001401529		M086HJ	000	O N		35			.00						36.03		T	
014414180401H3	N	SIGHT OPTICAL			A1	R2	12	12	6602.42	79229	12		.00	432	M			236
5440001401529		M096HJ	000	N		46			.00	20651	11			385	36.03		R	
014414200001H3	N	CIRCUIT CARD			A1	R2	4	3	259.94	760	2		.00	16	M			
5430004641070		M10BXZ	000	N		48			.00	277	2			8	4.00		R	
014414370001H3	N	CIRCUIT CARD			A1	R2	1	1	101.56	102	1		.00	4	M			
5920004539206		M06WGO	000	N	Z	48			.00	102	1			4	4.00		R	
014414420501H3	N	SIGHT OPTICAL			A1	R2	4	4	1977.00	7909	4		.00	140	M			
5440001401529		M108HJ	000	N	Z	32			.00	7908	4			140	35.00		R	
014414440101H3	N	PANEL CONTROL			A1	R2	1	1	1214.62	1215			.00	20	M			
5130010189791		M03T9T	000	N		32			.00						20.00		R	
014414480101H3	N	SIGHT OPTICAL			A1	R2	6	6	1548.13	9289	6		.00	210	M			
5440001401529		M116HJ	000	N	Z	48			.00	9289	6			210	35.00		R	
014414490001H3	N	CABLE ASSY			A1	R2	2	2	294.19	589	2		.00	17	M			
5440004622728		M05COT	000	N	Q	48			.00	588	2			17	8.50		R	
14414550301H3	N	CLAMP ASSY			A1	R2	1	1	363.19	363	1		.00	10	M			
5440004115780		M03CZ7	000	N	Q	46			.00	363	1			10	10.00		R	
14414560301H3	N	CKCT CARD ASSY			A1	R2	1	1	138.44	138	1		.00	4	M			
5440004776209		M05QK6	000	N	Q	32			.00	138	1			4	4.00		R	

AMC-PRON / STK-ITEM-NO	MPE ING	ITEM-NAME / PCN	M-IIC	O/T ING	WAC / NARR CD	PROJ CONT / CUST CO	MAINT P-QTY / PROP P-QTY	MAINT A-QTY / PROP A-QTY	U-MAINT FO-CST / N-U-MAINT FO-CST	MAINT FD-AUTH / CST-INC TO	ING QTY / QTY COMP-OT	QTY SCH-MO / QTY COMP-MO	EQ-PROD QTY / QTY SCRAP	TOTAL M-MHR / MHR EXP-OT	WAI / U-MAINT M-HRS	RESP TO-ACT / NEG F-UP	FO B/O VAL / F-P ING
014414570001H3	N	NIGHT TRACKER		IO	IO	N2	10	10	313.90	3139	10		.00	85	M		
1430010469594		M08QRE	000	Y	Z	23			.00	2898	10			85		8.50	R
014414580001H3	N	NIGHT TRACKER		IO	IO	N2	286	286	313.89	89773		90	.00	2431	M		
1430010469594		M09QRE	000	Y		23			.00							8.50	R
014414590001H3	N	NIGHT TRACKER		IO	IO	N2	345	345	313.89	108292	345		.00	3711	M		
1430010469594		M03QRE	000	Y	Z	24			.00	125689	345			3712		8.50	F
014414600001H3	N	NIGHT TRACKER		IO	IO	N2	448	448	313.89	140623	448	10	10.00	3808	M		
1430010469594		M04QRE	000	Y		24			.00	151127	438			4316		8.50	F
014414610001H3	N	NIGHT TRACKER		IO	IO	N2	671	871	313.89	210620	250		8.47	5703	M		
1430010469594		M05QRE	000	Y		24			.00	31776	90	90		837		8.50	T
014414620001H3	N	NIGHT TRACKER		IO	IO	N2	711	711	394.22	280290	480		17.00	5688	M		3206
1430010488594		M06QRE	000	Y		24			.00	219984	463	25		4562		8.00	F
014414890201H3	N	CABLE ASSY			A1	R2	58	56	817.80	45797	61		.00	1001	M		
1440011028170		M01X40	000		Z	01			.00	39237	56		5	1001		18.00	F
014414940101H3	N	ARM ASSEMBLY MOUNT			LO	N2	15	15	55.23	828	15		.00	22	M		
1440011477113		M0237B	000	N	Z	24			.00	743	15			23		1.50	F
014414970101H3	N	PANEL TOW CONTROL			A1	S2	2	2	1006.30	2013	1		.00	22	M		
1440010321311		M04E91	000	N		48			.00	782	1			11		11.00	R
014415010301H3	N	POWER SUPPLY			A1	R2	2	2	257.30	515	2		.00	12	M		
1430004641084		M04BX2	000	N	Q	32			.00	515	2			12		6.00	R
014415020301H3	N	CIRCUIT CARD			A1	R2	3	3	138.44	415	3		.00	12	M		
1430004841060		M08BXY	000	N	Q	32			.00	415	3			12		4.00	R

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